

Alternative Access & Switches



bit.ly/mmatp091825

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- Author
 - Inclusive Learning 365: Edtech Strategies for Every Day of the Year
 - Quick Wins! Tips to Activate Inclusive Learning





Our Plan for Today

01

Matching Needs
to Technology

02

Access:
Touch

03

Access:
Voice

04

Access: Keyboard
& Cursor

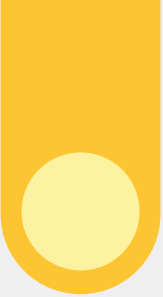
05

Access:
Switches

06

Access:
Other!

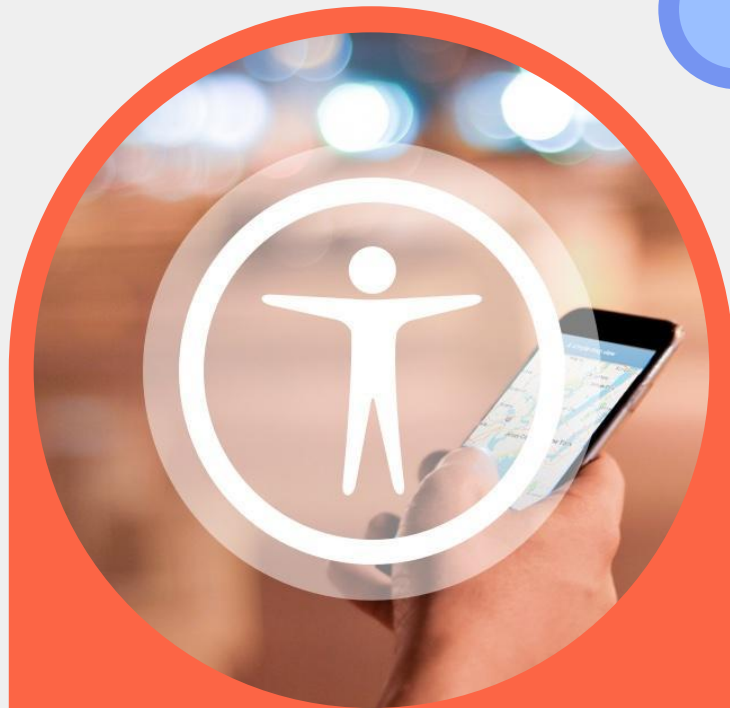




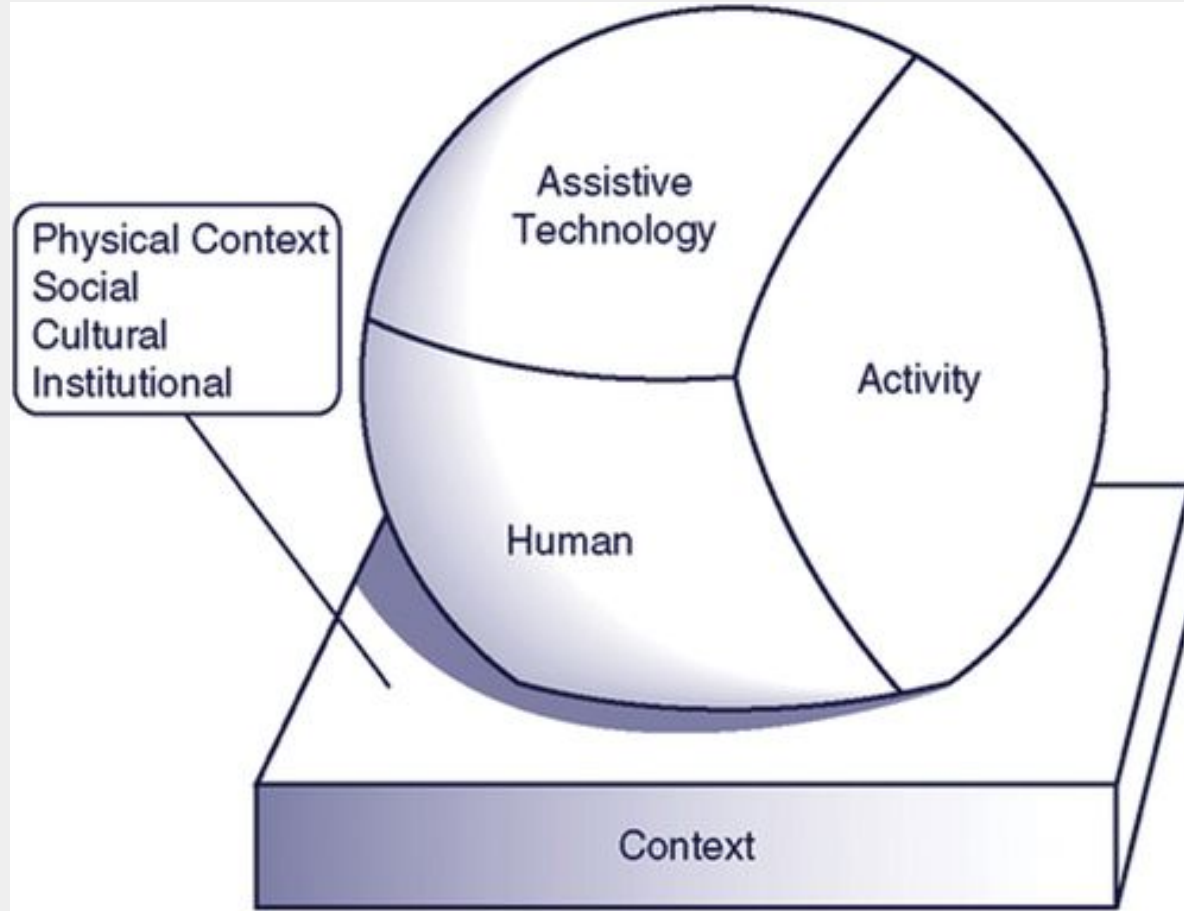
01

Feature Matching

Individual & Technology



HAAT Model

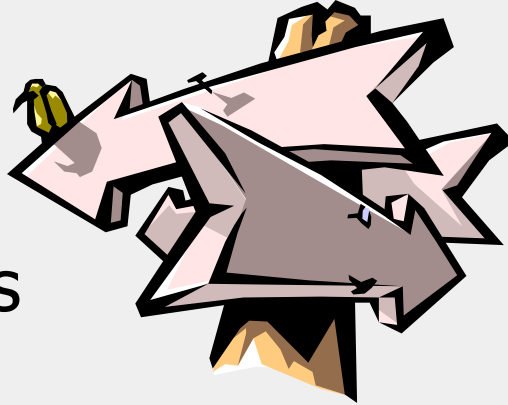


Feature Match Model



Individual

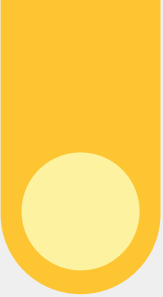
- ☐ Needs
- ☐ Abilities
- ☐ Expectations



Technology

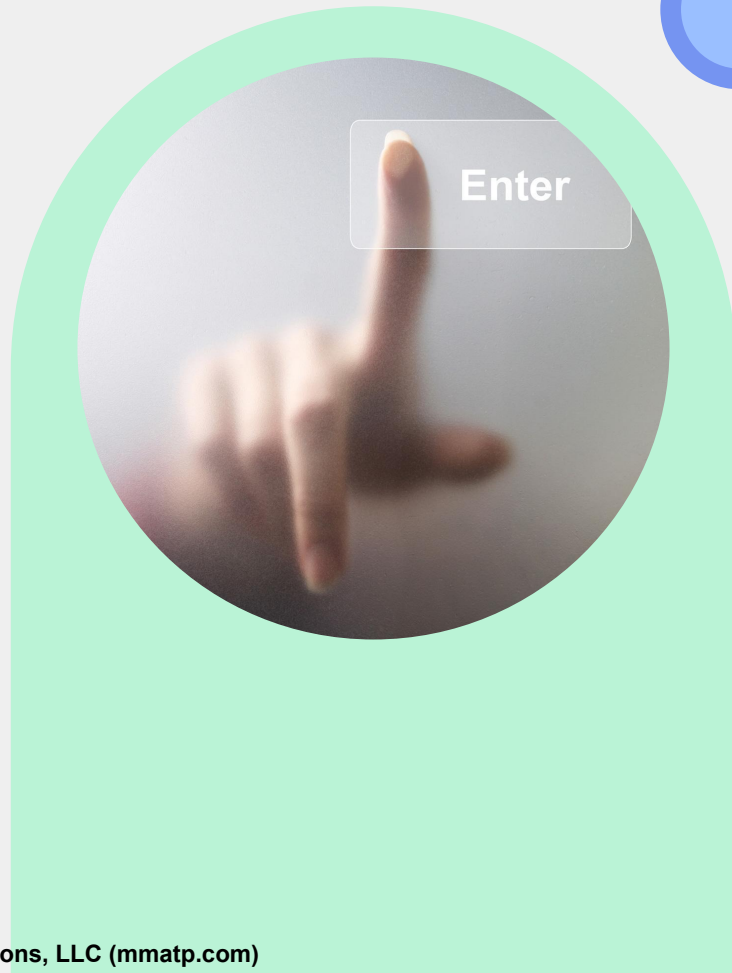
- ☐ Interface / Input
- ☐ Processing
- ☐ Output





02

Access: Touch



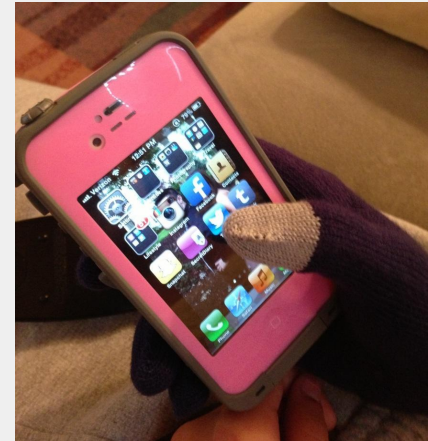
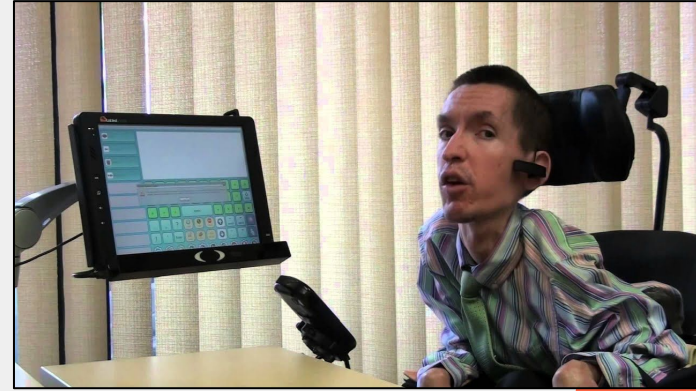
Touch Considerations



Access to:

- Menus?
- Apps?
- Control of functions?
- Control of device?

Doesn't require pressure, only contact.



The Touch Screen

Requires ability to use gestures

Things
to Remember!



Drag item



Flick finger



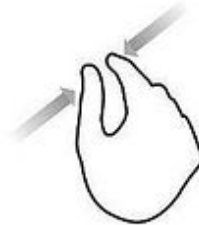
Tap



Tap and hold



Nudge



Pinch



Spread



Slide finger



Aides to Support Touch

- Stylus
- Pointers
- Keyguards



 Makers Making Change
Assistive Devices Make ▾ Engage ▾ Learn ▾ Adaptive Gaming STEM with Purpose [Log In](#)

Home > Assistive Devices



Customizable 6th Finger/Toe Stylus

This capacitive stylus slips over a finger or toe with a 3D printed ring to assist someone with low hand or finger dexterity use a touchscreen device

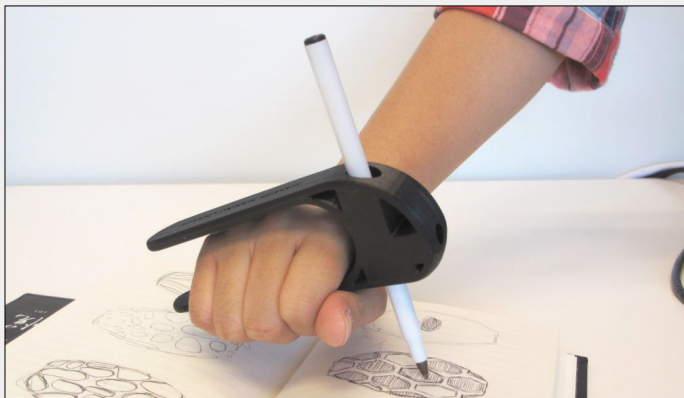
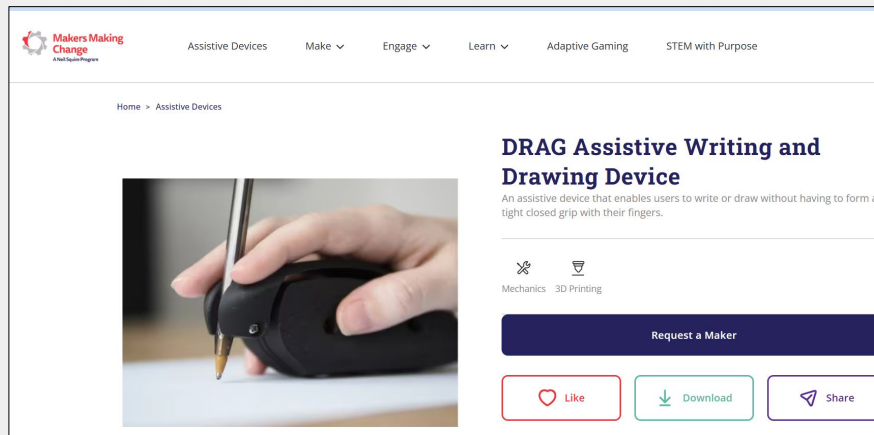
 Mechanics  3D Printing

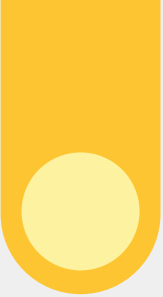
Ken Hackbarth

[Request a Maker](#)

Aides to Support Touch

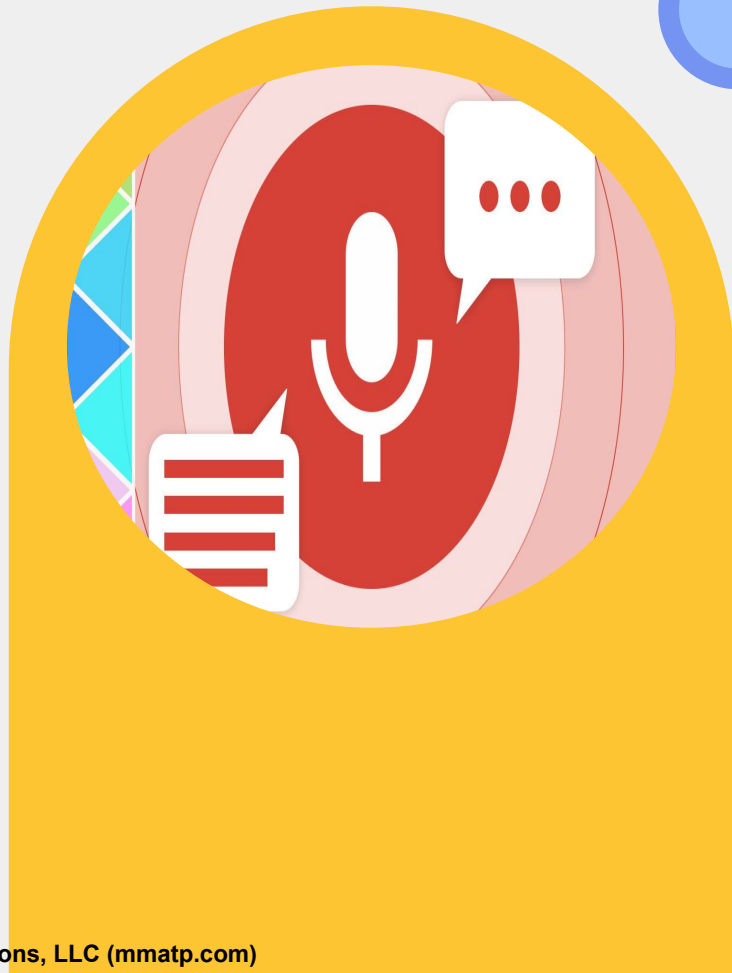
- 3D Printing!





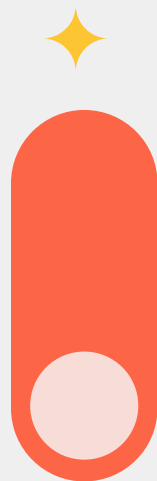
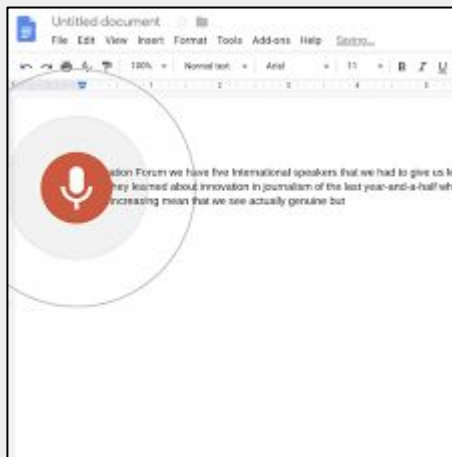
03

Access: Voice

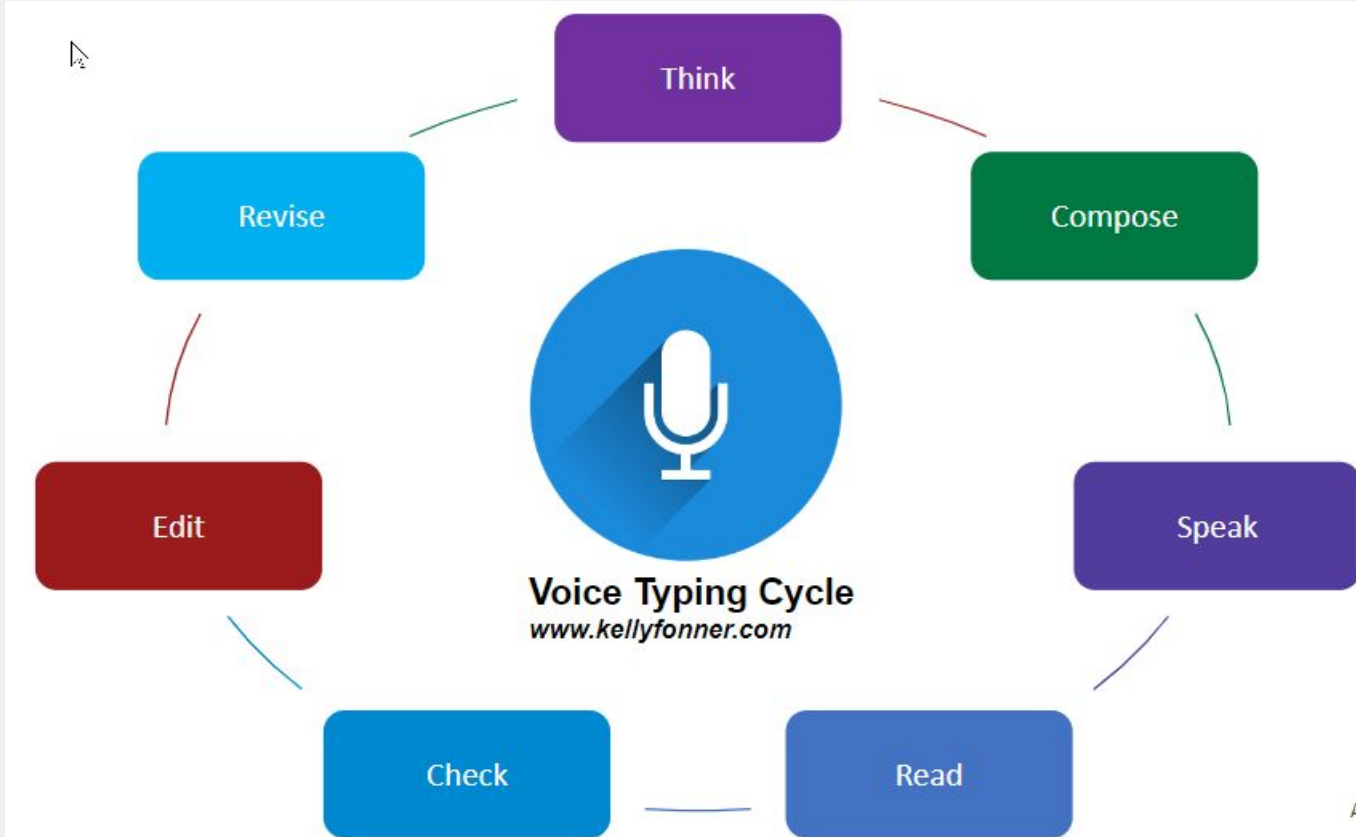


Voice: Types of Access via Speech

- Smart Phones
- Personal Assistants
- Television
- Typing
 - Built In
 - Extension/App
- Considerations
 - Microphone quality
 - Environment



The Process of Writing with Voice



Voice: Writing via Speech

■ Resources



OCALI **ATIM** ASSISTIVE TECHNOLOGY
INTERNET MODULES

Overview



[Start](#)
[Table of Contents](#)
[Glossary](#)
[Start Access and Translation Tools](#)

What's Included

- 47 pages
- Pre/post-assessments
- Optional \$20 certificate

In the past, speech recognition (SR) was hard to get and not very good. Now anyone with access to a smartphone, tablet, or Google Docs has speech recognition and it works very well. Speech recognition is built-in to most computer and mobile device operating systems and common word processor programs. Students can use it whenever they want. But speech recognition is still an assistive writing feature for students with disabilities.

It should be considered using a data-driven assistive technology assessment process.

Estimated Time to Complete: 2 hours

Objectives	Authors	Credit
1. Explain why speech recognition is considered AT for writing for students with disabilities. 2. Describe a four-step process for writing with speech recognition. 3. Apply eight scaffolded stages for teaching speech recognition to students. 4. Apply at least 2 targeted measurements in a pre/post comparison to show the effectiveness of speech recognition as AT for writing. 5. Identify implementation strategies to support the integration of speech recognition for schoolwork.		



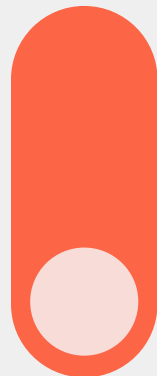
<http://bit.ly/srguide>

Speech Recognition as AT for Writing

A Guide for K-12 Education

Updated January 2020

Daniel Cochrane & Kelly Key



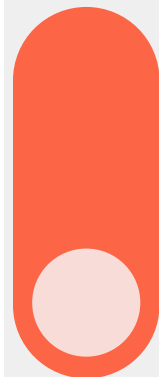
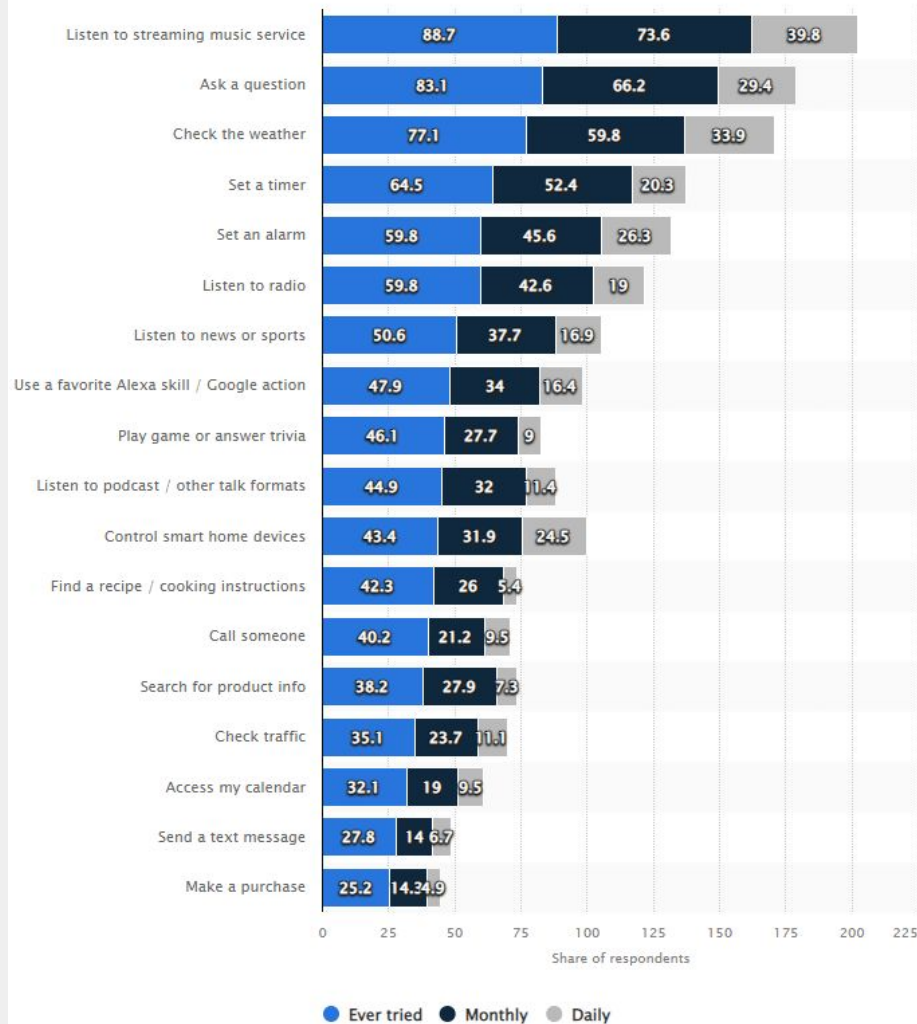
Voice: Personal Assistants



Voice: What do most people ask?



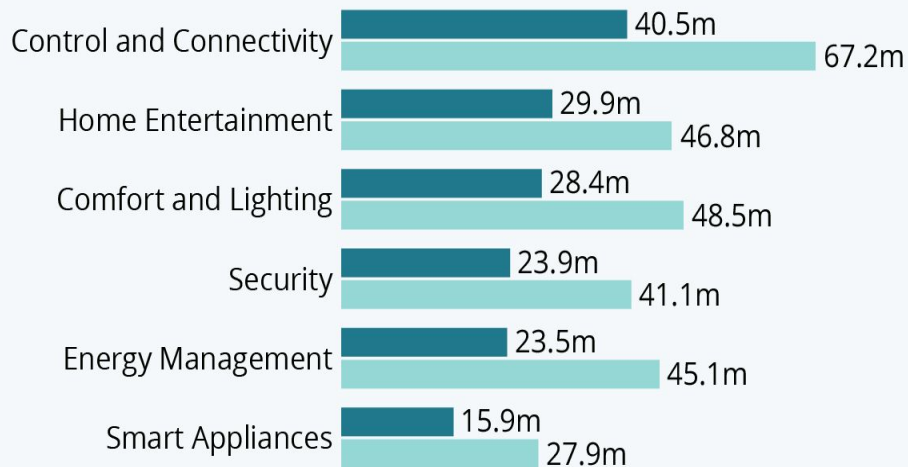
Voice: What do most people ask?



U.S. Households Are Becoming Smarter

Estimated number of U.S. households with smart home applications, by type

■ 2020 ■ 2024

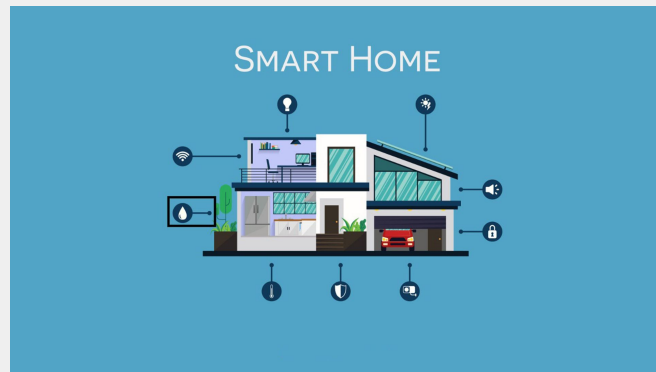


As of May 2020

Source: Statista Digital Market Outlook



Voice Assistants: Home Automation



Voice Assistants: Home Automation



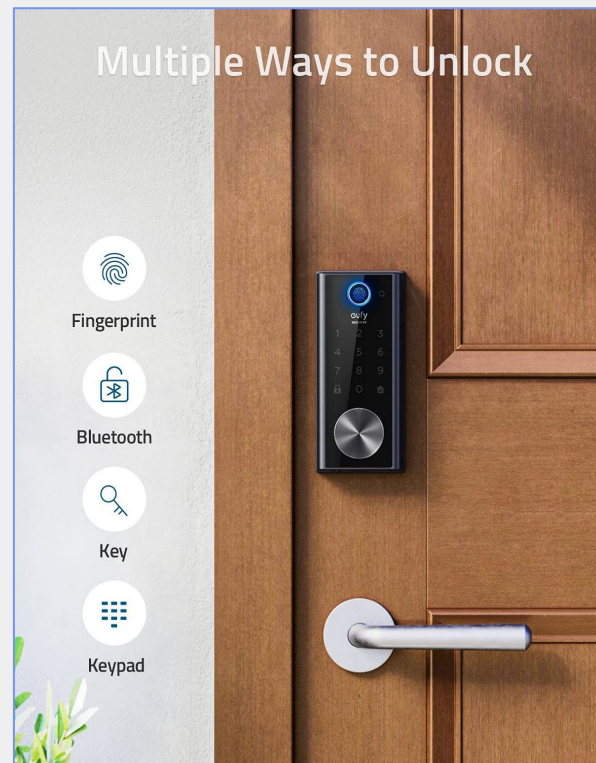
Voice Assistants: Lights



Voice Assistants: Curtains / Blinds



Voice Assistants: Security - Doors



Voice Assistants: Security - Cameras



Ring Video Doorbell

Smart security starts
at the front door



blink mini
an amazon company

"Alexa, show me the living room camera."



Day & Night
HD Video



Two-Way
Audio



Motion
Detection



04

Access: Keyboard & Cursor



Keyboard: Modifications to the Standard Keyboard

Electronic Adjustments

- Sticky Keys
- Slow Keys
- Rearrange Keys

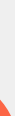
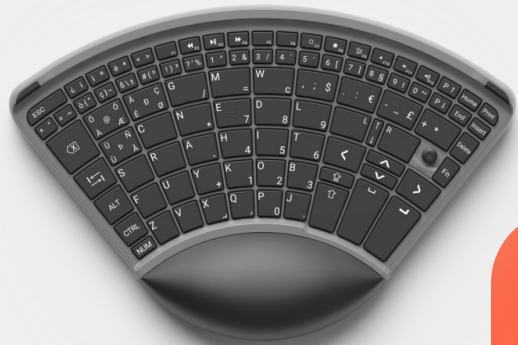
Physical Adjustments

- Large Print Letters
- Slant Boards
- Splints, Sticks, etc.
- Keyguards



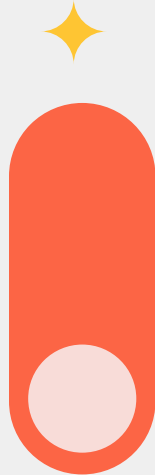
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Keyboard: App / Extension Keyboard Alternatives

- OnScreen Keyboards
- Alternative Keyboards
- Virtual Keyboards





Access: Cursor Control

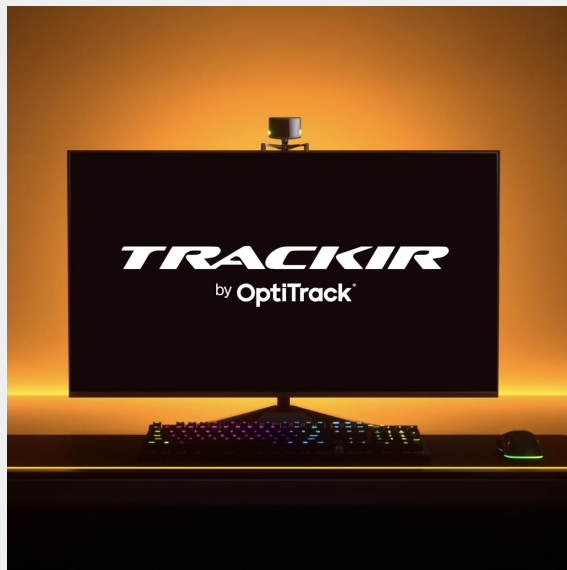
Input: Mouse and Pointer Options

- Ergonomic Mice
- Foot Mice
- Trackball
- Joystick Style Mice
- Anti Tremor Adaptations



Input: Head Control

- Head Tracker
- Head Mouse
- Powerchair Head Arrays

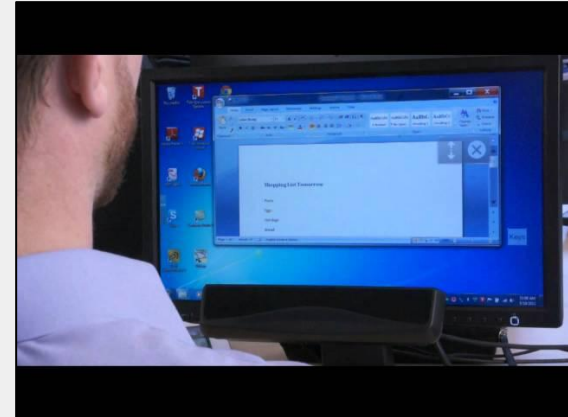
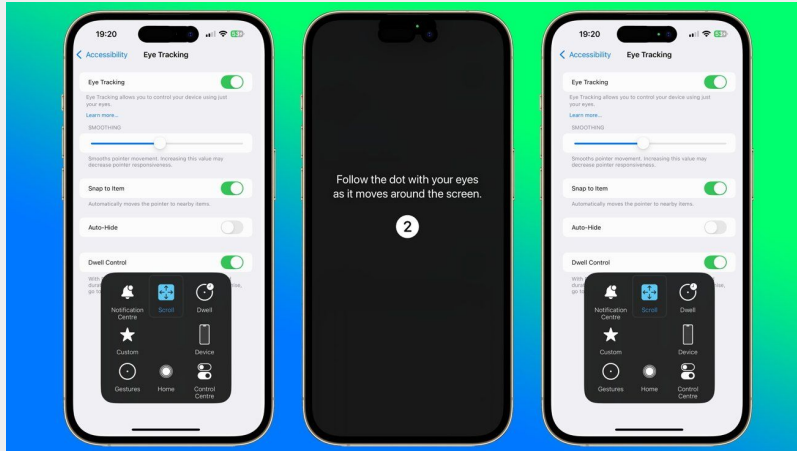


Input: Face Control (Chromebook)



Input: Eye Gaze

- Built-in
- Add-On





Input: Switches

- Physical impairment with inability to use direct selection methods (keyboard, mouse, touch, eye and/or voice)
- Minimizes keys needed
- Access same keys, functions, access as direct selection through fewer inputs
- Input to Apps. Games, Toys, AAC, Mobility, Environmental Controls



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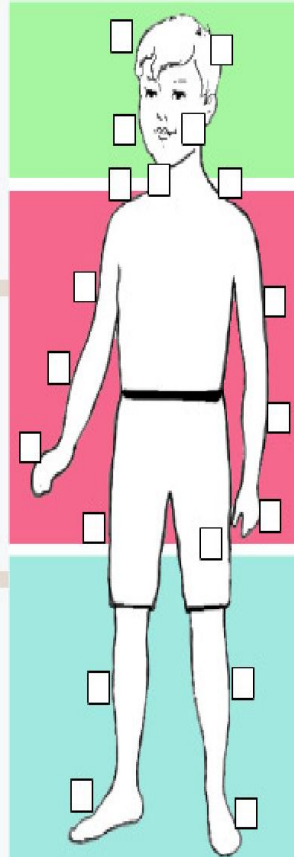
Input: Switch Features

- Amount of force/pressure
- Amount of travel
- Size of the target
- Color and Texture
- Feedback
- Visual—lights
- Auditory—Click sound, music, beep
- Vibration
- Physical— Feeling of movement

Switch control sites: Assessment Checklist and Summary

[Instructions](#)

[Summary Notes](#)



Use this form as a "QUICK-LOOK" checklist while determining best placement and control sites for switches. You can fill out the checkboxes, add text in the Summary Notes field, and print it out as part of your overall switch access assessment.

Click in each checkbox to enter your assessment for switch access control sites at each area of possible control. Using the following key, type in a single letter into each box to indicate if each control site is definitely a good choice, a possibility or not an option.

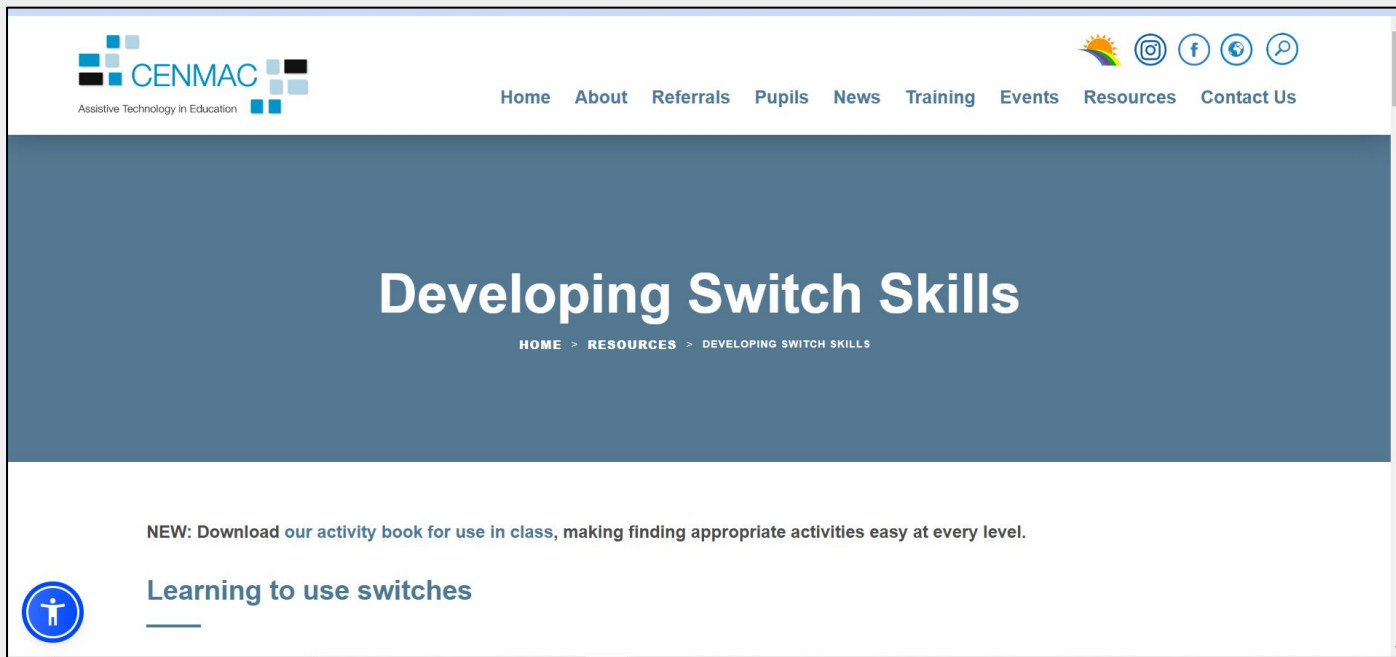
KEY:

Y = yes, good option for a control site

? = might be an option with additional training/ modification

N = not a possibility at this stage

Input: Developing Switch Skills

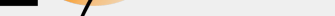
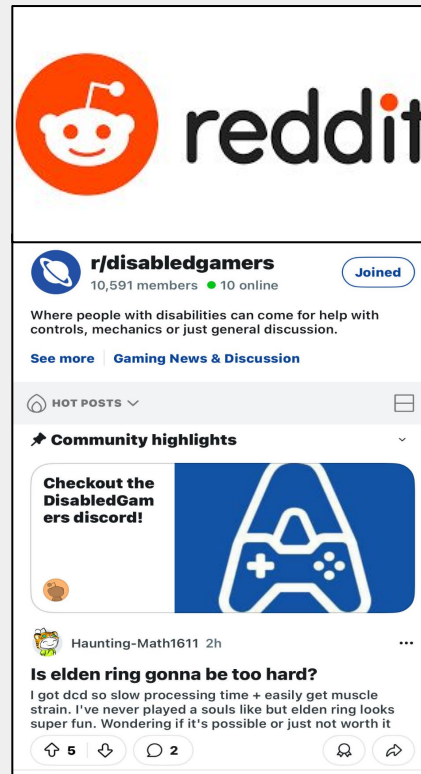


cenmac.com/resources/developing-switch-skills/

06

Access: Other





20 *Years* **ablegamers**
CHANGING LIVES

Input: Via Mobility Device Controls

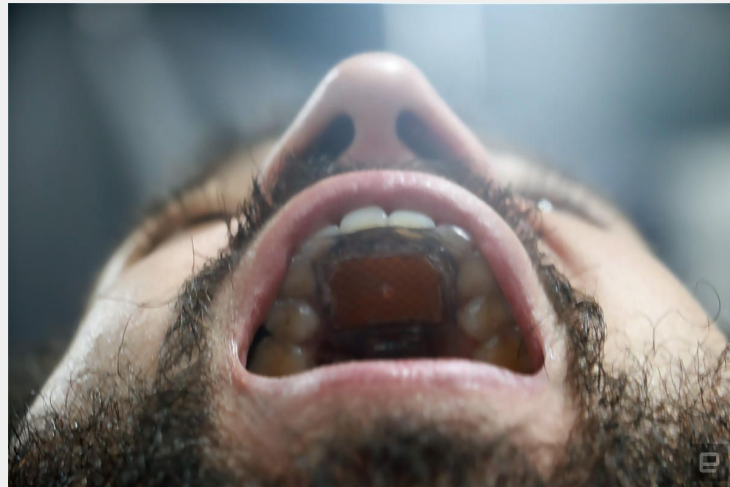
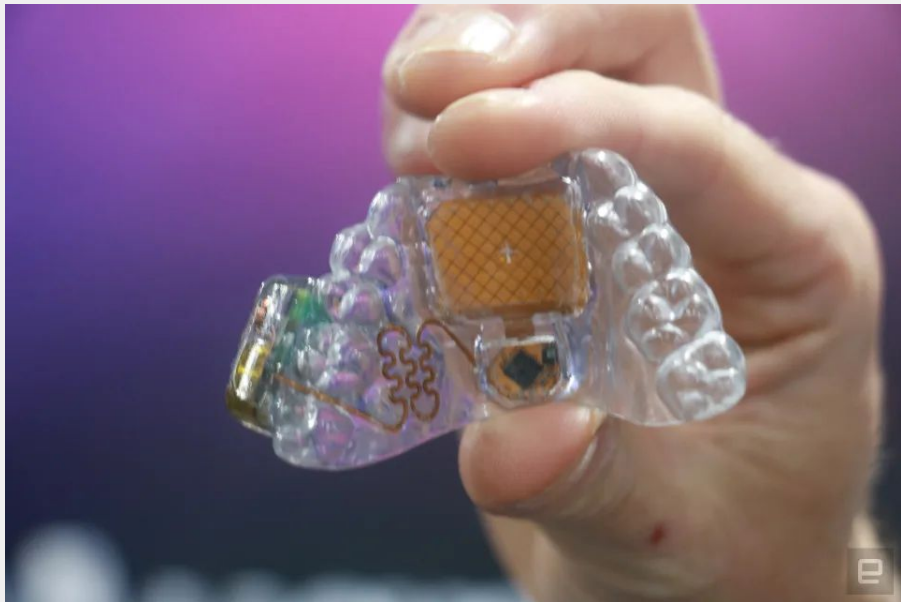
Considerations:

- Wheelchair electronics
- Training needs



Input: Tongue Control!

Mouthpad by Augmental

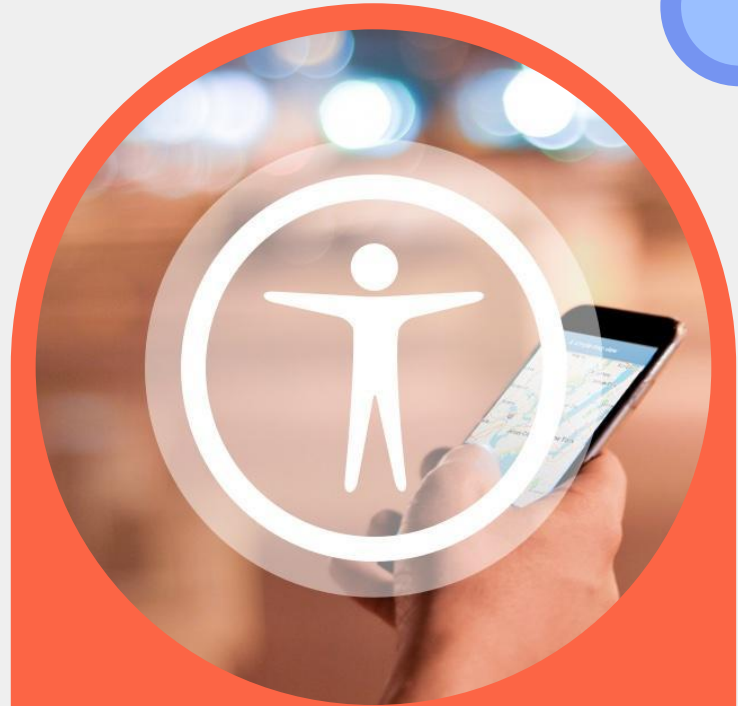


Input: Tongue Control!

Mouthpad by Augmental



Wrap up Questions



Thanks!



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