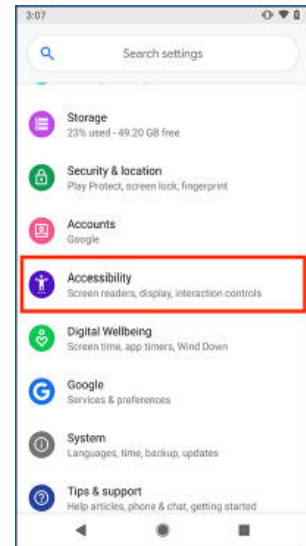
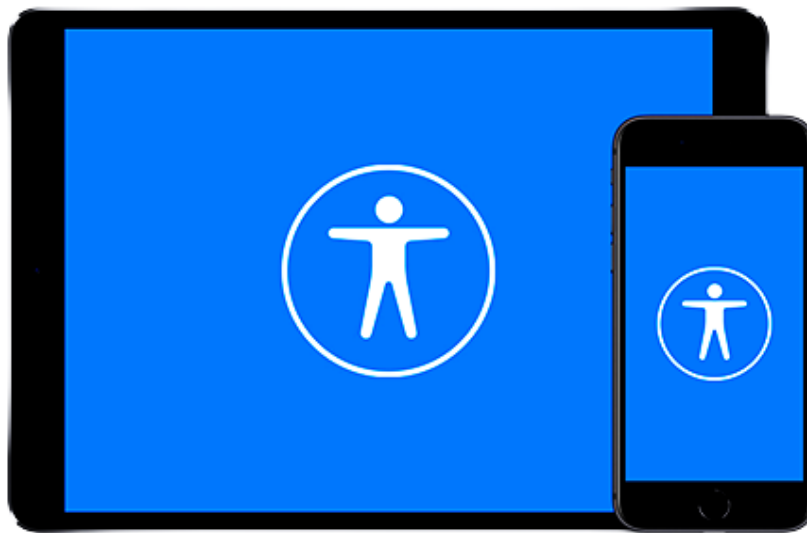


# DEVICE ACCOMMODATIONS:

## Setting Up Accessible Phones & Tablets

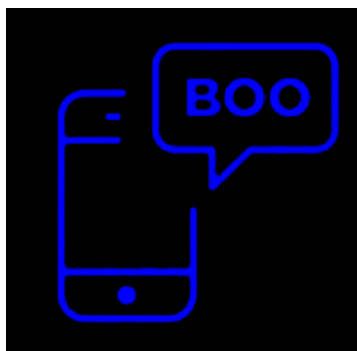
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### Overview

This is a guide to ways of setting up smart devices - whether tablets or phones, android or apple, to make them easier to understand, control and access for the people using them. This will cover some basic tips to make devices easier to use as well as specific ways to accommodate cognitive, motor function, vision, hearing or other challenges.

Devices are constantly changing and upgrading through continuous development. Apps, settings and services will change so don't be afraid to search for new methods and try new things, this guide can be a starting point to some of the search terms to help you on your way. Sometimes people are hesitant to dive into technology but remember that no app or



setting can break a device and you can always do a factory reset and start again from scratch. It's important to not express an attitude that smart devices are too complex to understand or something to be scared to mess around with.

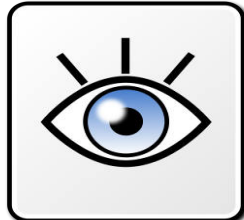
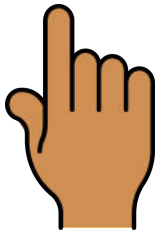
Apple Factory Reset ([Guide](#))  
Android Factory Reset ([Guide](#))

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# Device Setup

## Basic Guidelines

Devices are the most successful when they are kept readily available to the individual who uses them and when they are setup to be intuitive, visual, and consistent. It's best that devices have safeguards and accommodations so they can be used as independently as possible in terms of both access and supervision.



### Available

- Remove passcodes and lockscreens, or use smart covers to unlock
- Keep the screen on while it's being used by reducing or removing display timeout
- Stylus pens can help with accuracy as well as hand over hand support and let the hand rest while using the device
- Keep any access devices nearby, ideally always connected
- Use wireless or [magnetic chargers](#) so the device can be taken independently

### Intuitive & Visual

- Remove wallpapers, widgets and unnecessary screens
- Use fewer, larger icons
- Use larger text for readers
- Put everything on display instead of hidden away in folders
- Hide unused programs by uninstalling or putting in folders

### Consistent

- Remove confusing gestures, popups & screens
- Turn off automatic updates
- Reduce notifications
- Remove recents & multitasking
- Teach only one method of performing each task

### Independent

- Use accommodations as needed for full access
- Make backups to quickly recover from mistakes
- Use apps or parental controls to prevent inappropriate access and unwanted modifications
- Block the app store to prevent malware installs from ads
- Use necessary cases and screen protectors to prevent damage
- Allow independent exploration where possible

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## Suggested Settings



### Android

#### Settings >Notifications

Turn off anything unnecessary,  
check back often

#### Settings >Display

Font Size & Zoom: to Needs  
Screen Timeout: 15min+  
Edge Panels: Off

#### Settings >Wallpaper

Remove or set to something very  
simple

#### Settings >Lock Screen

Type: None

#### Settings >Advanced Features

Disable Everything

#### Settings >Accessibility

Talkback is full screen voiceover  
for the visually impaired  
Interaction & Dexterity  
Universal Switch ([Full Guide](#))  
Assistant Menu places  
volume/power buttons on screen  
Interaction Control locks the device  
into one app, same as Guided  
Access on ios devices  
Touch & Hold Delay: Long  
Tap Duration: reduce accidental taps  
Ignore Repeated Touches: for  
unsteady or shaky hands  
Installed Services is where you  
find third party and additional  
accessibility programs



### iOS

#### Settings >Display

Auto Lock: 15 minutes+  
Text Size: Increase for Readers

#### Settings >Home Screen & Dock

App Icons: Bigger  
Multitasking: Both Off  
Suggested/Recent Apps: Off

#### Settings >Accessibility ([Full Guide](#))

Touch >Touch Accommodations  
Hold Duration helps with unintended  
taps  
Ignore Repeat helps unsteady hands to  
not double or triple tap  
Initial Location is for people whose  
finger slides after touching  
Final Location is for people who don't  
have an accurate initial touch, also  
works best for hand over hand  
interactions  
Shake to Undo: off  
Call Audio Routing automatically  
answers calls in Speaker mode  
Voice Control ([Full Guide](#))  
Switch Control ([Full Guide](#))  
Guided Access ([Full Guide](#))

#### Settings >Wallpaper

None, or select something very simple

#### Settings >Siri

Off unless used

#### Settings >Touch ID & Passcode

TouchID/Passcode generally Off unless  
individual is able to use independently

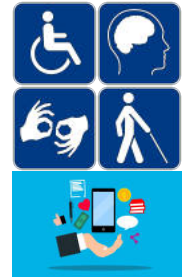
#### Settings >Notifications

Turn Off as many notifications as  
possible. If the user doesn't receive calls  
the device can be set to Do Not Disturb.

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## Challenges & Accommodations

A comprehensive list of all the possible accommodations and accessible apps and functions would be both incredibly long and out of date within a day, but below is a list of common challenges people might face when using technology and some useful apps and methods to accommodate, support, and improve on them.



### Automations & Shortcuts

One of the most effective ways to support someone using their device is to build shortcuts for common tasks and actions into a single button or even an event that triggers automatically, such as texting family when they arrive home. This is unfortunately a bit more technical than the other parts of this guide, but for the brave or the technology inclined these can help with any type of challenge from cognitive to typing.



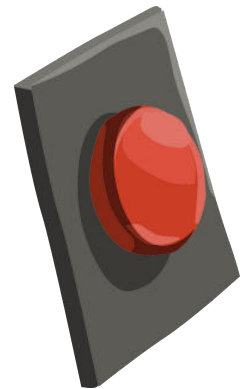
Apple Shortcuts ([Full Guide](#))

Android Actionblocks ([Full Guide](#))

Android Tasker ([Intro](#)) (most technical but also most powerful)

### Cognitive

Cognitive challenges in understanding what a device can do and how to access it is common for supported individuals, who are often newer to technology. One of the most important ways to help to build skills and confidence is to stick to just one way to perform each function - for example you could call a person by opening their contact card, going to recent calls, typing in their number, asking the assistant or clicking on a homescreen link - pick one method and make sure everybody supports those same steps: consistency.



Reducing distractions such as wallpaper, making everything available on one screen and keeping interactions simple by removing excess gestures are other ways to make a device more predictable and easier to understand. The basic settings allow for some level of reduced complexity, but on Android installing and using **Nova Launcher** will allow for an even more consistent and streamlined experience.

There are many apps that support people with cognitive challenges, with built in reminders, notes, clocks and more. A very common and motivating function with tablets is playing music and simple music players **Cantunes**(iOS) and **Audioswipe**(Android) allow control of music with simple swipe gestures. Sometimes people are hesitant at first to interact with a device and for that the app **Fluidity**(ios) or **Magic Fluids**(android) are a great starting place - giving immediate audio and visual reward for any touch interaction.

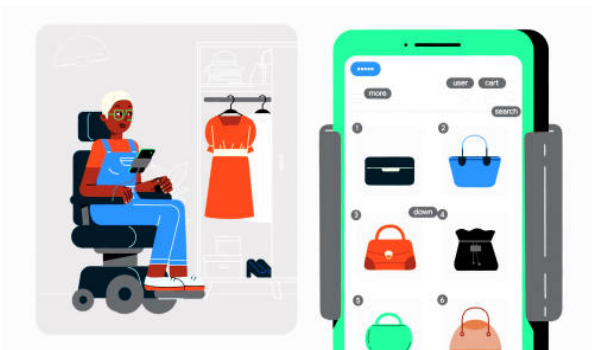


Sometimes a supported person can wind up accidentally changing settings on their device, installing Malware through clicking on ads, or accessing material that's inappropriate for their ability or setting. Sometimes these concerns lead to allowing only supervised use, These issues can be easily managed through some basic device restrictions, allowing for safer independent use. On iOS this is best prevented through **Parental Controls**([Guide](#)) on the device itself, and on Android the app **Blocksite** both prevents access to unwanted material online and allows pincode locks to be placed on the Settings and App Store apps to prevent accidental changes.

### Manual Dexterity

Many people are challenged to accurately tap and swipe the screen or to reach the power or volume buttons. Both types of device have accessibility settings to help with specific challenges, as well as the touch settings suggested above. On Android installing custom launchers, such as NovaLauncher or BigLauncher, or using driving mode, can make icons larger and easier to interact with.

Many people find it easier and more accurate to rest their elbow, forearm or wrist on a support while using the tablet, so play around with different positions as well as using it with or without a stylus. It's sometimes also hard to hold the device without accidentally touching the edges of the screen which makes the device not respond to touch, in which case a chunk foam or rubber case can make all the difference.



Both types of device accommodate Switch(button) and Voice Access for people with greater difficulties. Android also has an app called **Open Sesame** which allows for device control using head motion and the camera, and Apple had this built in as an option under switch access. (side note: chrome has an extension called Camera Mouse to do the same thing on computers)



Android Voice Access ([Guide 1](#), [Guide 2](#))  
Android Switch Access ([Full Guide](#), [Video](#))  
Apple Voice Control ([Full Guide](#))  
Apple Switch Control ([Full Guide](#))

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## Speech

Tablets and phones, with their touchscreen and speaker, work naturally as assistive communication devices. Communication boards range from fully featured -

**GoTalkNow**(ios) and **LetMeTalk**(android) - to basic **Yes/No** boards and also apps such as **MyPics**(ios) and **Choices2Go**(ios) that don't speak but let someone choose between images instead. These are just a few favorite AAC apps, there are many available to fit various needs. There are also simple apps like **Signboard**(android) which just display text, and many Text-to-Speech apps to read typed words aloud.

## Vision

For people with poor vision there are many ways to adjust device settings to have larger type and higher contrast to make things easier to see and interact with. There are full Screen Readers for all types of devices which let you know what you are touching as well as Text-to-speech systems to just read out any selected text.

Android Screen Reader ([Guide](#))

Android Text to Speech ([Guide](#))

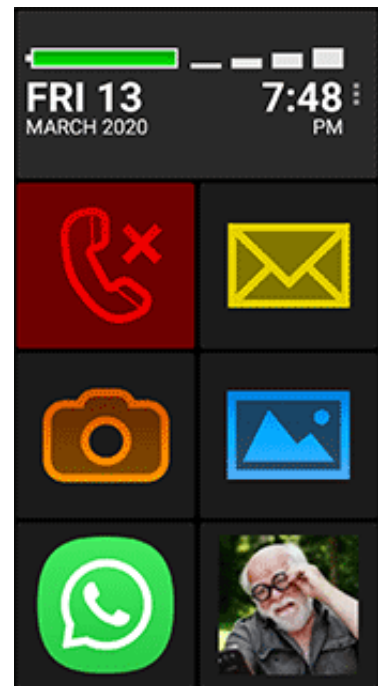
Apple Screen Reader ([Guide](#))

Apple Text to Speech ([Guide](#))

On android the app **Big Launcher** has built in high contrast modes, large buttons and a suite of functional simplified apps making it awesome out of the box for users with poor vision.

If the visually impaired person is mostly using a single app, such as a communication board or music player, then a device case with holes cut into it and put on backwards, covering the screen, can both act as a tactile guide and limit touch to only certain points.

Additionally there are several apps designed to help visually impaired users to understand and interact with the world around them. **Seeing AI**(ios) and **Google Lookout**(Android) both use the device camera and artificial intelligence to help navigate, identify objects, read text, count money and more. There are many simple **Magnifier** apps that do exactly what you'd expect using the device camera, and there's even apps like Be My Eyes which connect you to a real person who can explain anything the camera is seeing.





## Hearing

A fairly new but very cool app to help those with hearing challenges is Live Transcription. Android and Apple both have apps called **Live Transcribe** which are able to convert to text the speech and sounds around you in real time. On android the live transcribe can also be enabled in Accessibility Settings to caption videos and even phone calls. Of course the camera can also be used to allow for video calls which support both sign language and non-verbal communication.

Devices that have a camera flash can be setup to use that for notifications, catching attention visually instead of with sounds. Many phones are also directly compatible with hearing aids or can be connected through bluetooth or even a headphone cord.

## Reading/Writing

The needs of users who aren't confident with reading and writing can be similar to those with low vision, and many of the same tools will work to assist them, such as Seeing AI and Google Lookout to read text and documents using the device camera, and the text to speech functions as well. Additionally all devices support some level of dictation, or Speech to Text which will allow for typing, whether text messages or web searches, using voice only.

Android Text to Speech ([Guide](#))

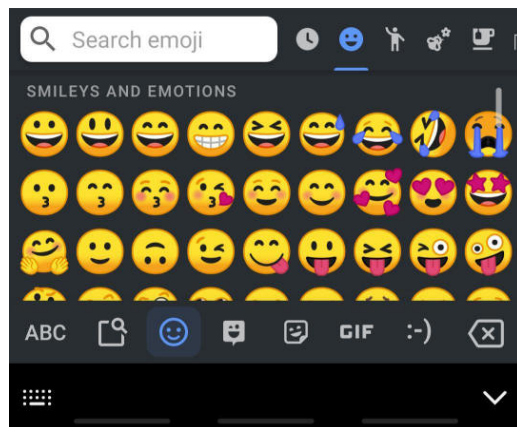
Android Speech to Text ([Guide](#))

Apple Text to Speech ([Guide](#))

Apple Speech to Text ([Guide](#))



## Typing



For many different reasons typing can be difficult for some people. Sometimes using the Speech to Text (iOS [Guide](#), Android [Guide](#)) can help, but there are also a number of custom keyboards which can make typing easier. One way to help can be to switch a high contrast keyboard with larger buttons, which is often built in but if not it can be found in [gBoard](#) under the gear icon. There are many options that can be modified such as changing the number of keys, adding and removing predictions and more. There are many more custom keyboards

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made with accessibility in mind(search “accessible keyboard”). It can help users who aren’t very familiar with computers to switch to a keyboard with an ABC layout(search “ABC Keyboard” in the app store) instead of the typical QWERTY, which makes letters easier to find.

For people who struggle with the act of typing it can help to set up the **Text Expander** keyboard which uses shortcuts to long typed messages (eg typing p1 will input a phone number). A second way to do this is to program in **Text Shortcuts**(Android [Guide](#)) or **Text Replacements**(iOS [Guide](#)) and use individual or combinations of keys as shortcuts for longer sentences or even emoji.

Sometimes typing is easier on an actual keyboard instead of the onscreen one, and any bluetooth keyboard can be connected to a smart device, or usb adapters can be plugged in to use a regular wired keyboard.



## Conclusion



Whatever ability, whatever challenge, there’s a way to make it work and expand into the digital world if you’re open to it.

Go try, be supportive, be brave, and if you get stuck just start googling :)