



MAER Newsletter

Association for Education and Rehabilitation of the Blind and Visually Impaired
Michigan Chapter

March 18, 2011

President's Message

Kathy Konow

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The 28th Annual MAER Conference, "Making it Happen" is scheduled for April 14 and 15 at the Livonia Marriott at Laurel Park Place, 17100 North Laurel Park Drive, Livonia. The board has been working very hard to bring you another conference full of great speakers as well as a way for you to connect with your peers in sharing ideas and just enjoying time together. Our keynote speaker this year is Mary Nelle McLennan. The beginning conference topic is "Laughing Matters," so be ready to start with a smile.

We have Marilyn Gense, who is well known in her field, doing three different sessions on autism. We are seeing so many more autistic children that I am sure it will be a great help to everyone. Anne McKay Bacon will be doing a session on functional vision assessment. She has presented at our conferences before and has been well received. Another area of concern with the state of the economy is a session on grant writing presented by Rob Wall-Emerson.

We will have a session on low-vision and a travel presented by Dr. Susan Gomezano. There will also be a session on science and other subjects given

by Marilyn Winograd and Dr. Lillian Rankel. They will be showing how to make visual aids into tactile representations using inexpensive craft supplies. Those interested in braille will be able to attend a session on "ABC Braille Study" given by Rob Wall-Emerson and a session on teaching braille to dual readers. The mobility sessions will include one on "O&M Foundations" by Rick Welsh as well as one given by Leader Dogs for the Blind titled "Next Generation GPS - exploring the Kapsys Kaptan GPS." This presentation will be limited to the first 20 individuals who sign-up.

Technology will be covered by J.J. Meddaugh of A T Guys. There will also be two sessions on using the iPhone and the iPad. This will be a hands-on session with students from Western Michigan assisting on a one-on-one basis. It should prove to be very helpful for those with different levels of skills. There will be many more speakers ready to bring you the latest information to help in your professional life. We hope to see you in Livonia in April.

Kathy Konow, president

From the Editor

Alicia Li

Once again the main purpose of this newsletter is to promote the MAER annual conference to be held on April 14 and 15 in Livonia. The president's message gives you a glimpse of this upcoming 2-day event including the renowned professional speakers who will present practical and beneficial topics that are relevant to our profession. Many announcements and reminders have been posted with descriptions of presentations. I urge you not to miss this major Michigan event for parents, educators and staff associated with individuals who are visually impaired.

The eye condition ONH-SOD once considered rare has now gained more attention due to the increased number of children suffering from this disorder. Despite confusion caused between ONH-SOD and cortical visual impairments (CVI) because of some similar characteristics, they are indeed two different conditions based on the location(s) of the brain damage/malfunction. Treatment and intervention required are thus different (refer to "CVI" published in the 2009 MAER Newsletter).

Tyler Colton, president of Michigan Braille Transcribing Fund (MBTF), graciously updated us with MBTF's development and progress. MBTF was more visible in the VI field through the Michigan Association of Transcribers for the Visually Impaired (MATVI) sponsored

activities such as braille related conferences and workshops. Today, it continues to be active in producing braille materials for the braille readers across the nation. We don't want to forget our "old friend," who continues its endeavor in meeting the need for our children/students/clients who are braille readers.

In this technological era, we often find ourselves lagging behind in using technology in our field. To enhance an individual's learning and life quality, one of the best ways is to keep abreast of new developments. Two articles featuring the most recent VI technology are included in this newsletter.

Thanks to Al Puzzuoli, an information technologist at Michigan State University and Lukus Patterson, Chief of the Blind Rehabilitation Service in Battle Creek VAMC, for their contributions. Puzzuoli and Patterson, who are both visually impaired, have provided a multitude of resources on various technologies used by individuals with visual impairments. Some of the information, such as those associated with the iPhone and iPad, may as well serve as a preliminary "peek" into the presentations to be made at the MAER Conference.

Michigan Braille Transcribing Fund (MBTF)

Tyler Colton, President

Michigan Braille Transcribing Fund (MBTF) began operations in 1962 at the State Prison of Southern Michigan. MBTF spent eight hours a day producing brailled materials for the blind and visually impaired nationwide and abroad. What began as a volunteer effort by a few prisoners has grown into a non-profit corporation now known as a leader in the industry. Over the course of 49 years, MBTF has developed into one of the largest braille production facilities in the nation.

The success of MBTF was made possible through the combined efforts of Lions of Districts 11-B1 and 11-C2, Jackson County Intermediate School District and the Michigan Department of Corrections. Guided by its Board of Directors, MBTF's CEO/President and Administrative Assistant work diligently with 42 staff members.

At its inception the program was originally established to provide Michigan students with brailled materials. The proliferation of MBTF has enabled our certified braille transcribers the latitude to participate in the "hard to braille" projects, e.g., municipal bus schedules, corporate manuals, menus, brochures and textbooks requiring large amounts of graphics. MBTF offers Michigan school systems an automatic 50% discount for all purchases that are currently within our product catalog.

Currently located at the G. Robert Cotton Correctional Facility after being moved from the State Prison of South-

ern Michigan in 1998, the MBTF facility encompasses a complete training program and braille production center. Under the tutelage of prisoner instructors, MBTF braille transcription trainees undergo a rigorous certification process prescribed by the U.S. Library of Congress. While the program is often mistaken as a volunteer effort, prisoners are paid a wage that is commensurate with their professionalism and productivity. Much of the success of MBTF is a result of our certified braille transcribers utilizing the latest technology and embracing the philosophy of life-long learning.

Transcribing textbooks into braille is similar to translating a foreign language to English. To protect against errors and omissions, most of the transcriptions are sent to blind proofreaders. Several proofreaders are contracted with MBTF to proofread the brailled materials. When materials have been proofread, the corrections are made to the master copy and then copies of masters are prepared for distribution.

New software programs have enhanced the braille transcribing process. Technology is constantly improving the methods by which the transcriber encodes textbooks and instructional materials into braille formats as prescribed by the braille authorities. Computer technology has shortened the production time from beginning to completion of a textbook. While most of the tedious work is done by computers, the manual procedures are the

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Michigan Braille Transcribing Fund (cont.)

mainstay of the experienced transcriber. MBTF targets “hard to do braille,” such as math, science, geography, spelling and social studies. Despite the inability of the braille industry to meet this demand, MBTF provides materials very inexpensively in terms of the market price in the private sector. A finished braille page from MBTF typically sells between thirty-three and thirty-seven cents compared to commercial market prices of several dollars per page.

Unspoken benefits often accrue to the MBTF staff. Men who otherwise would have little choice but to waste idle years achieving little and contributing nothing to society have discovered a correlation between helping others and helping themselves. In addition to developing braille transcribing skills, the men also learn computer, communication, business and life skills essential to their survival upon their return to society. As a consequence of their tireless efforts to improve their lives and become successful, society gains individuals who have developed marketable skills, and

a sense of community that is embodied in their productivity and altruistic attitude.

We are proud to state that during the past fifteen years, all the prisoners who have been released from prison while they were still employed with MBTF at the time of their release remain free in society. Of the certified braille transcribers who have been released, each currently operates their own braille business center in the State of Michigan. MBTF boasts a zero percent recidivism rate and a tremendous savings of tax-payer dollars.

Perhaps only the blind can fully realize the value of this program. The blind and visually impaired who are literate possess a fundamental requisite to find purpose and achieve efficacy in their lives. Blind children deprived of braille will ultimately be deprived of fulfillment of security and success in life. As a result of MBTF’s efforts more children now have greater access to brailled books that are otherwise cost prohibited at commercial rates.

Eye Conditions: Optic Nerve Hypoplasia, Septo-Optic Dysplasia

Alicia Li

Optic nerve hypoplasia (ONH) and septo-optic dysplasia are congenital abnormalities. ONH is characterized by small and underdeveloped optic nerves. It may occur alone or coexist with an endocrine and central nervous system disorder called septo-optic dys-

plasia or De Morsier’s syndrome. ONH, a stable congenital defect, may affect one or both eyes. The level of visual acuity may range from 20/20 to severe impairment such as blindness with no light perception. Visual fields may also be affected (e.g., binasal or

Eye Conditions: Optic Nerve Hypoplasia, Septo-Optic Dysplasia (cont.)

titemporal defects, upper or lower half missing, etc.). Color vision is usually normal. In ONH, the small grey optic disc is surrounded by a yellow halo of hypopigmentation (a.k.a. the double-ring sign) due to a concentric choroidal and retinal pigment epithelial abnormality (Kanski, 1989). ONH may be associated with maternal alcohol or drug abuse, maternal diabetes or trauma, very young mothers, or could be genetic (Bishop, 1996). Other visual anomalies that may be associated with ONH include nystagmus, microphthalmia, colobomas, astigmatism, aniridia, or amblyopia.

De Morsier's syndrome can be better understood by its descriptive name, septo-optic dysplasia (SOD). The visual problem (the "O" in SOD) associated with SOD is ONH described above and frequently is the first symptom leading to the diagnosis of SOD. The "septo-" in SOD involves brain related problems, particularly the septum pellucidum. This is the membrane separating two ventricles of the brain. The septum pellucidum is damaged or absent in children with SOD. Since this membrane is connected to the corpus callosum (the nerve bundle connecting two hemispheres of the brain), its damage or absence can also be associated with abnormal corpus callosum, (Stirnweis, 2006). It has been noted that there is a strong association between bilateral ONH, absence of the septum pellucidum and agenesis (absence) of corpus callosum (Kanski,

1989). Many patients with SOD have problems with the pituitary gland located at the base of the brain. It is considered the body's "master control gland" as it controls endocrine system and directs the making of hormones needed for various functions of the body (e.g., growth). Consequently, possible hormonal deficiencies associated with SOD may include the following (SKI*HI, 2003; Stirnweis, 2006):

1. Growth hormone (GH) deficiency: Children with SOD are smaller in stature.
2. Hypothyroidism (thyroid hormones—TRH & TSH): Lack of thyroid hormones leads to poor growth, weight gain, hair loss, slowing of mental and muscle functions.
3. Sexual infantilism (sex hormones—FSH and LH): Lack of sex hormones results in a smaller penis in boys and absent or irregular periods in girls.
4. Hypo-adrenalism (cortisol): The adrenal gland may not be making enough cortisol, a hormone most important in coping with stressful situations.

Diabetic insipidus (antidiuretic hormone deficiency): This is a condition where too much fluid in the body is lost due to urination leading to dehydration.

SOD cannot be cured, but can be treated with hormonal replacement for hormonal abnormalities (e.g., GH is injected for the child to grow taller).

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Eye Conditions: Optic Nerve Hypoplasia, Septo-Optic Dysplasia (cont.)

Adaptations and Educational Considerations:

When working with children with SOD, two aspects of problems need to be taken into consideration: the implications associated with ONH and those from the brain abnormality. The severity of ONH and brain abnormality ranges from mild to severe. The needs for adaptations vary from one child to another. For example, one child may have a severe visual impairment as a result of ONH, but has no cognitive impairment with growth hormone deficiencies only from SOD. With shots of growth hormones, this child could function as a braille reader and advance academically like his nondisabled peers in a regular classroom. On the other hand, a child may have a low-functioning level with a myriad of physical and learning problems as a result of brain abnormalities. Each child is different. Things that apply and work in one child may not necessarily work in another.

The visual adaptations in children with SOD depend on the impact of their ONH. Although not much can be done medically for this non-progressive disorder, vision stimulation or efficiency programming is critical to help the children maximize the use of their vision. These children will also benefit from an optimal visual environment where an uncluttered and high contrast background is provided and the illumination and print size (magnification) are adapted based on the children's eye disorders and their effects on visual acuity and visual

fields. Children who suffer from extremely reduced visual acuity need braille instructions as well as adaptations for a braille reader, e.g., providing tactile form of materials.

Despite some children with SOD function and advance normally or near normally at school, others may be moderately or severely impaired and require a non-academic oriented program. Although they may be treated as children with cortical visual impairments (CVI) due to some similar characteristics (e.g., sensory processing problems, normal color vision, needing plenty of response time, etc.), children with SOD face peculiar challenges that do not typically exist in CVI such as hormonal deficiencies. Stirnweis (2006) emphasized that looking at the whole child is the rule of thumb when working with children with SOD. She further explained four areas that should be included when "looking at the whole child," i.e., understanding the medical impact, sensory issues, processing and transition problems, and communication and behaviors. Understanding the medical impact of SOD on a child includes the knowledge of the areas of impact in the brain, and the medications the child is taking. As working with all students who are taking medications, a teacher needs to be aware of the primary purpose of the medicine and its side effects. The information on the areas of impact in the brain can be obtained from the student's file.

As mentioned earlier, septum pellucidum and corpus callosum may be damaged or absent in children with SOD

Eye Conditions: Optic Nerve Hypoplasia, Septo-Optic Dysplasia (cont.)

whereby the communication between the two hemispheres of the brain is affected. As a result, the processing of information is delayed. Given the myriads of functions governed by the two halves of the brain, it is not unusual to note why children with SOD have difficulties in many areas, such as following instructions, spatial orientation, language, etc. Providing shorter instructions or one-step-at-a-time instruction is important. Being very precise in using landmarks and clues is critical when spatial concepts are involved in the instructions. Initiation of sentences, word retrieval, and maintaining a conversation may be difficult for children with SOD. In addition to being patient, consistent strategies in using certain cues or pictures to help the child communicate could be a tremendous help. Low-tech usage such as pictures to high-tech devices as iPad could be used in assisting children with communication.

Children with SOD may have behavior problems as a result of language and/or sensory processing difficulties, the teachers need to conduct informal or formal evaluations including observations when children exhibit behavior concerns. At times it becomes necessary to consult with an occupational therapist and a speech-language pathologist to determine possible factors contributing to the child's behavior problems and design an intervention plan accordingly. Due to the delay in processing information as a result of damaged or absent septum pellucidum and/or corpus callosum, providing children with plenty of response/

processing time is a must. As with all other children with disabilities, especially those with brain injuries, a structured environment is essential, where the child is offered a consistent and predictable routine, staff, physical set up of the room, and curriculum delivery with least "surprises" possible.

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A Revolution in Assistive Technology for the Visually Impaired

AI Puzzuoli, Informational Technologist
Michigan State University

Perhaps once in a decade, a confluence of ideas occurs that truly revolutionizes the face of AT for the visually impaired. The 70s saw the advent of devices such as the Optacon and the Kurzweil Reading Machine that help make independent access to printed material a reality. The 80s brought us personal computers and screen readers. Word processors were suddenly accessible and opportunities opened before us in terms of school, work and play. In the 90s, the World Wide Web came of age, as did screen reading technologies needed to successfully navigate it. We gained independent access to a whole new world of information, news and online shopping.

Today, we stand at the very beginning of another such revolutionary confluence, one precipitated by mobile devices and the integration of assistive technologies into them. Apple is leading the way in terms of such integration, and the results have been amazing, e.g., the iPhone. To many, the iPhone is a gadget geek's dream; but to a blind user, the iPhone has the potential to become a truly life changing piece of technology. Take one "smart phone," and add internet capabilities, GPS, a camera and a high quality screen reader, and what do you get? The answer, a device like a Swiss army knife that can do just about anything you can imagine! The phone has the potential to replace almost all the high priced, proprietary gadgets we have historically touted as blind users. Below, we'll examine just a few of the possibilities.

The phone can be extremely handy in a classroom setting. If paired with a Bluetooth keyboard, or a small, portable Braille display such as the APH Refreshabraille: <http://goo.gl/IIcrg>, it could become a very viable note-taking solution.

Apple's iBooks reader is accessible immediately on purchase. This means that if you need a particular book, and that book is available from Apple's bookstore, you could begin reading it almost instantly. The book could be read via speech or even in Braille, with the addition of a display such as the Refreshabraille mentioned above.

Do you utilize books from RFB&D? If so, let's replace another gadget buy purchasing the \$20.00 RFB&D book player app: <http://goo.gl/67sp4>.

Object identification is another area in which the phone shines. Do you carry a device that you use solely for the purpose of identifying currency? Well then, put it away, and buy this app for \$1.99: <http://goo.gl/d3Vkd>.

Want some help identifying that random item you just pulled out of the cupboard? Try the free Omoby Visual search App: <http://goo.gl/wxBA3>.

Orientation and navigational aids are also available. Do you want to see what interesting places are nearby?

A Revolution in Assistive Technology for the Visually Impaired (Cont.)

The free AroundMe app can help: <http://itunes.apple.com/us/app/aroundme/id290051590?mt=8>.

Do you need a more full featured GPS app? Then try Navigon: <http://goo.gl/6EWy>.

As you can see, the possibilities are endless; and today we are only looking at the “tip of the iceberg.” To help newcomers to this technology, there is an active community of visually im-

paired iPhone users. You can chat with them by joining the VIPhone Google group at: <http://goo.gl/9jRuf>.

The Applevis site is also a great resource. It is a user-driven community that reviews apps and rates them based on their accessibility. Join the fun at <http://www.applevis.com>. As you can see, the world of technology has much to offer the visually impaired and blind community. Take the time to explore the options that will enrich and enhance your everyday life.

Today's Technology, Tomorrow's Literacy

Lukus Patterson, A Grateful Student
Chief, Blind Rehabilitation Service in Battle Creek, VAMC

It is a challenge in our daily lives to keep up with technology, let alone keeping up with all of the caveats concerning Computer Access Technology for those that are blind or have visual impairments. In every area of our field, training, competing funding priorities, varying levels of vision loss, and additional handicaps may make even general technology decisions difficult.

Professionally, I have been administering and instructing General Blind Rehab programs and Computer Access Technology for 15 years for the VA. But personally, as I have been legally blind for about 43 years now, technology has been a life long journey. Moving through the Special Education system as a student right here in Michi-

gan, I had the opportunity to see technology grow from one of the first speech synthesizers (Echo/Apple 2e) and the Opticon that produced the first refreshable Braille to what we see today with the iPhone and so many other wonderful speech and large print access devices.

Also today, I field more questions concerning Access Technology than any other area by far. While O&M, RT, and Low Vision are staples in our program, it almost always leads to some type of technology that someone wants to know and use. Despite the fact that our population in the VA is older than in the public school system, technology is still of great importance, and we are beginning to struggle with our

Today's Technology, Tomorrow's Literacy (cont.)

overall lack of awareness on topics. It is so serious an issue in my program, that in the future, I will not even consider instructors that do not have advanced computer and technology skills to accompany their degrees in RT and O&M. Like it or not, those degrees are simply not enough!

From the TCVI side of things, similar issues seem apparent to me as well. However, as I have been watching VI education from afar, and comparing the technology abilities of my own children to other visually impaired children, I am more concerned with their **general technology literacy**. Right now my 8-year old is texting with his Nintendo DS, and my 11-year old is switching from messaging on Facebook to posting a Utube video on how to mod his NERF dart gun. Both of them know how to look up and spell-check any research on any subject in print and video in seconds. My sons already have higher **technology literacy** than most people I know. Many of their classmates are doing the same and half of their classmates have cell phones with better data plans than I have!

I am not bragging, but asking you to compare. Are your students doing the same things as other kids? Are they **technology literate**? Are you? If not, forget about employment, your students may have difficulties with most general ADLS as our world is changing and fast! The simplest of jobs now requires a high level of **technology literacy**. Every now and again, I still listen to folks discuss the old print ver-

sus Braille literacy debate while Braille AND Print alike are being slowly consumed by visual, auditory, and tactile technology. It is soon to be a NON-debate, as a majority of it is already electronic. I am sure that pen / paper and slate / stylus, will not be gone next week, but I also know that all of those things evolved from cave paintings, clay tablets, and parchment. No matter the modality, children ARE NOT learning literacy the same way you did. The Web, texting, twittering, and Facebook and the hardware that runs them are changing learning, and like never before, blind and visually impaired children need different tools and a very different literacy set to be successful in absolutely **EVERYTHING!**

I could go on forever, but I will not. Because many of you have been a great help to me as a VI student, state client, and in other issues, rather than just complaining, I have tried to compile a technology tool box to help you, your students, and parents improve your **general technology literacy**. After all **YOU** were the ones that started me on my path, so maybe now I can help just a little with yours! On the links below, you can jump right from these pages to the sites and add them as favorites in your browser. You do not have to update these sites, as they do it for you. For those of you that prefer a phone or some lower tech crossover, there are some **"not-as-nerdy"** tools too! I just ask that you spend an hour a week browsing some of these sites and I guarantee that you will improve your **technology literacy!**

Today's Technology, Tomorrow's Literacy (cont.)

Access Technology Websites

Accessible World - all kinds of general audio archives of on many general topics, but they also use Tech Talk podcasting and have many archived tech topics.

<http://www.accessibleworld.org/>

AFB's Access world – Access world is a technology site with reviews on many current and past products sites with a monthly newsletter and back issue to January 2000. There is an article search, forums, alerts signup, related links,

AccessWorld appliance accessibility guide and product search

<http://afb.org/aw/main.asp> The main site also very useful
<http://www.afb.org/>

AT GUYS – Not only are J.J. Meddaugh and Matt McCubbin founders and webmasters of AT GUYS. They are a tandem source for technology information right here in Michigan! They have more sites much further down the list. They USE the equipment they sell daily, and know as much as anyone in the business concerning access technology, and particularly tactile / speech technology combinations. They ARE the future in technology in Michigan. Check out their products and info at:

<http://www.atguys.com>

<http://www.blindbargains.com>

<http://www.bscan.com>

BlindCooltech – Cool Accessible technology podcasting from this website or through a podcast program. For more on other podcasting sites for the blind visit the podcasting link at:

<http://www.whitestick.co.uk/podcasts.html>

But to get a general idea, check out the main page at:

<http://www.blindcooltech.com/>

Blind Geek Zone – I do not know if Rick Harmon the webmaster is a geek or not, but he has a great site. His links section is excellent: <http://www.blind-geek-zone.net/links.htm> His site also has many audio tutorials and demonstrations of many different programs and devices used every day by people in the blind community. Check out his main site here: <http://www.blind-geek-zone.net/>

Next Generation Technologies, Inc. - Next Generation Technologies specializes in Voice recognition in combination with Jaws, Zoomtext, and Magic and pretty much everything else: Dragon NaturallySpeaking, Windows Speech Recognition, MacSpeech Dictate, T-Ware, J-Say, J-Tools, J-Tunes, MagniTalk, Digital Recorders, Microphones & Headsets:

<http://www.ngtvoice.com/>

NFB - Technology Resource List – This is an outstanding site! I quickly found math links and other things that I could not find anywhere else. Links

Today's Technology, Tomorrow's Literacy (cont.)

for everything Braille note takers, embossers, writing devices, displays, translation software, math hardware and software, GPS systems, mobile phones, tactile graphics, vending stand and retail sales equipment, reference materials, technology magazines for the blind, tutorials, digital and E-book resources, international sites, companies and more!

http://www.nfb.org/nfb/Technology_Resource_List1.asp

Sendero- When someone says GPS in the blindness world, it pretty much means Sendero. Sendero began developing accessible GPS in 1993 and their software is now at the core of 4 of the 6 accessible GPS systems such as BrailleNote, Mobile Geo, Braille Sense and the Pac Mate/StreetTalk. Sendero sells these GPS products and their host devices plus the Miniguide, i.d. mate OMNI, Talks, Mobile Speak, KNFB Mobile Reader and VictorReader Stream. Check them out here: <http://www.senderogroup.com/index.htm>

Serotek- Brings a plethora of different access options and new ideas. For all products visit: <http://www.serotek.com/>. For their free online screen reader, go to: <http://www.satogo.com/en/>. And lastly for great audio and tech news visit: Serotalk at <http://www.serotalk.com/>

Texas School for the Blind – Everything is BIG in Texas! – There resource page is HUGE, and the website

itself is outstanding. There is more technology assessment and tools here for education than anywhere else I could find. Resource List:

<http://www.tsbvi.edu/resources>

The Low Vision Gateway – One of the most comprehensive Internet sites I have found that generally covers everything. This is a great site to give to parents!

Some of their sub-sites like Eye Diseases & Conditions Causing Vision Loss may be very useful for you as well!

<http://www.lowvision.org/>

The Trace Center - The Trace Research & Development Center is a part of the College of Engineering, University of Wisconsin-Madison. Trace has been a pioneer in the field of technology for all disabilities, and has many good tools and resources.

<http://trace.wisc.edu/>

WhatIs?com – Technology Encyclopedia – Both of my kids use this. With this tool you can never say you do not know what a “NERD WORD” is. Search by word, browse by category, browse by alphabet or extension.

<http://whatis.techtarget.com/>

Phone and Mobile Resources

Accessible Phones (AT GUYS) - Accessible Phones is a resource for infor-

Today's Technology, Tomorrow's Literacy (cont.)

mation on cellular phones that are fully or somewhat accessible to the blind, visually impaired, or print-disabled. Some phones include built-in accessibility features while others work with specialized software that makes the phone talk. You can browse their database by phone feature, manufacturer, wireless carrier or supported software. The site lists a wide variety of specifications and features on each phone as well as useful resources linked to online stores offering phones and software. You can find deals on phones and accessories using their phone store.

<http://www.accessiblephones.com/>

ETO Engineering - Accessible Cell Phones for the Blind, Low Vision, Elderly, Hard of Hearing, Quadriplegic, or Physically Disabled

<http://www.etoengineering.com/>

Code Factory - Code Factory develops accessible software applications for mainstream mobile phones running on Android, Symbian, Windows Mobile and BlackBerry. They sell screen readers and magnifiers for mobile phones and Mobile tools (GPS, Mobile DAISY, and Color Recognizer).

<http://www.codefactory.es/en/>

Android – There are various sites listed below, but there are way too many phones and OS types to describe. Surf and enjoy!

Android Accessibility - http://eyes-free.googlecode.com/svn/trunk/documentation/android_access/index.html

IDEAL Group's Android Accessibility

Project- <http://accessibility-android.info/>

Android Access (AT GUYS)- <http://androidaccess.net/>

APPLE – There is some accessibility for all Apple devices! In order to do this right, you need to spend some time becoming familiar with the **ENTIRE** Apple Accessibility Page: Overview, Mac OS X, iPad, iPhone, iPod + iTunes, and Resources, and all of the sub-tabs on the left. I believe Apple has done a great job and really most everything is there:

<http://www.apple.com/accessibility/>

Other sites:

Apple devices - <http://store.apple.com/us>

VoiceOver - <http://www.apple.com/accessibility/voiceover/>

Accessible Software - <http://maccessibility.net/iPhone/apps/>

Hardware /adaptations - <http://www.apple.com/accessibility/resources/iPhone.html>

Regular software - <http://www.apple.com/iPhone/apps-for-iPhone/>

Bar code - <http://itunes.apple.com/us/app/barcode-scan-ner/id336944062?uo=2&mt=8&uo=2>

Today's Technology, Tomorrow's Literacy (cont.)

Apple apps for Special education - <http://www.scribd.com/doc/24470331/iPhone-iPad-and-iPod-touch-Apps-for-Special-Education>

“Not-as-Nerdy” tools

1-800-BING-411 (1-800-246-4411), replacement for [Google 411](#) + business search and “connect me feature”: say the location and type of business, and Bing 411 will connect you or send text. Find local shops, restaurants, - Search by name or type - Get text message links to maps and details 2 - Get traffic, movie times, and weather. -Hear turn-by-turn driving directions, or get a text message 2 -Find movie show times and theater info and listen to current weather and forecasts.

[TellMe](#) - 800-555-8355 (800-555-TELL) for news, weather, travel, sports, stock quotes, business listings, driving directions, movie times, horoscope, and more.

CHA-CHA – 1 800-224-2242 From you cell phone only (1800-2chacha) – Dial the number and ask any question verbally get a text back with the answer. You also get one advertisement text back every time, too.L

[1-800-Free411](#) – Free Business, Government and Residential, dial 800-373-3411 (800-FREE411), listen to a 10-second add on both ends, and then ask for the listing you want following

the voice prompts. Get the info via phone or via text message. Also offers Dial Directions

888 TCL (825) 0080 - [Chicago Lighthouse Assistive Technology Computer Help Desk](#) - Free Assistive Technology Help Available -. Eastern 9:00 a.m. - 4:30 p.m. Answer or leave a message for a real person who is knowledgeable about speech, large print and other tech issues.

[1-800-555-1212](#) – Free 800 listing directory assistance

1-800-THE-INFO - Verizon's The Info (1-800-843-4636) – Business and Address search

[Newsline](#) - NFB-NEWSLINE® Free service for those that cannot read with over 250 newspapers online. CALL TOLL FREE: 1-866-504-7300 for more information and setup.

[ReadThisToMe](#) - ReadThisToMe is a free reading service for blind and low-vision people, powered by volunteers and Internet collaboration. ReadThisToMe allows blind and low-vision people (clients) to have printed documents read to them over the phone. All a person needs is a phone line and a fax machine (no computer is required.) Here's how it works: The client faxes the document to be read to the ReadThisToMe toll-free fax number: 1-877-333-8848. The first page of the

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fax needs to be a cover page that includes the client's first name and callback (voice) phone number. The document itself can be just about anything: a handwritten letter, a bill, a can of food, a multi-page magazine article -- just about anything that can be faxed.

Dial Directions - dial 347-328-4667 from your cell phone only! (DIR-ECTIONS) and ask for directions to any address, store, or event. Dial Directions asks you for your start and destination and instantly texts back turn-by-turn directions.

PC cross-over

Cantoni! - From a computer, Smartphone, laptop or whatever - You can find a listing of prominent mobile "stripped" websites at <http://cantoni.mobi/>. Be careful not to type a "www" in front of the Web address because these letters are not used. Cantoni has arranged lists of links by categories such as News, Sports, Shopping, Travel, etc. This intervention alone can greatly ease web browsing for speech users, but no matter which brand of access software they are using it is easier because the extra stuff is simply not there.

Mobile Web Categories:

[Business](#)

[Entertainment](#)

[Information](#)

[News](#)

[Portal](#)

[Search](#)

[Shopping](#)

[Sports](#)

[Technology](#)

[Travel](#)

[Weather](#)

Text from a PC - To send a text message via email; just substitute a 10-digit cell number for 'number' for each carrier below:

- AT&T: number@txt.att.net
- Qwest: number@qwestmp.com
- T-Mobile: number@tmomail.net
- Verizon: number@vtext.com
- Sprint: number@messaging.sprintpcs.com or number@pm.sprint.com
- Virgin Mobile: number@vmobl.com
- Nextel: number@messaging.nextel.com
- Alltel: number@message.alltel.com
- Metro PCS: number@mymetropcs.com
- Powertel: number@ptel.com
- Suncom: number@tms.suncom.com
- U.S. Cellular: number@email.uscc.net