THE MAGNIFIER
Macular Degeneration Foundation
P.O. Box 531313
Henderson, Nevada 89053

FREE MATTER FOR THE BLIND

Clinical Trial Information

Nat'l Eye Institute
800-411-1222 or
www.nei.nih.gov

Clinical trials have guidelines called "inclusion" and "exclusion" criteria. These criteria (age, gender, type and stage of disease, etc.) keep partici-pants safe and ensure research-ers will be able to answer the questions they plan to study.

Gene Therapy Vision Study

Patients with vision related disorders are considered ideal candidates for gene therapy because the product can be in-jected directly into the eye.

Wills Eye Hospital has announced that it has treated the first RESCUE trial patient in the United States enrolled in an FDA-approved gene therapy vision research study. A product called GS010 (GenSight Biologics) can be injected right into the eye and, in a sense, "re-wire" or lower the patient's risk for getting the disease. The patient has Leber's Hereditary Optic Neurop-athy (LHON), a rare, genetic eye disease, passed on by the mother and affecting 35,000 patients worldwide.

The Magnifier

Book on CD

A recorded copy of "Macular Degeneration, "The Complete Guide to Saving and Maximizing Your Sight", by Lylas G Mogk, M.D. is now available on CD.

Sight Into Sound is making it available upon request.

Call 713-622-2767 or email carol.pierce@sightintosound.org

Free DVD

Hallucinations: Am I going Crazy?

AMD and Charles Bonnet Syndrome. DVD available on request with detailed informa-tion! Call: 888-633-3937

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"Guide Me"

Prevent Blindness, the nation's oldest volunteer eye health and safety organization, has launched a new resource, "GuideMe", designed for those who have been diagnosed with Age-related Macular Degeneration (AMD).

The intent of GuideMe is to simulate (not replace) a post-di-agnosis consultation with a doctor or therapist.

GuideMe works by asking a few questions about the user and the user's AMD diagnosis. It then uses the answers to create a cus-tomized guide with helpful information, tips, resources and sug-gested steps to take to be proactive about protecting vision. The guide is compatible with a smart phone, tablet, laptop or PC. The customized Guide can be viewed online or downloaded and print-ed. If there are diagnosis changes or updates, users can return at any time and change their answers to create a new customized Guide.

GuideMe was designed and developed by patient advocate and low vision educator Dan Roberts, M.M.E. Roberts created and maintains the new Prevent Blindness online resource: "Living Well with Low Vision."

To create and download GuideMe, go to **guideme.preventblind-ness.org**. For more information on AMD or other general eye health information, please call Prevent Blindness at (800) 331-2020 or visit **preventblindness.org**.

Text-to-Speech Has Come A Long Way!

Machines that can look at typed words on a page and convert those words into speech are called "Text to Speech or "Optical Character Recognition (OCR)" machines or computers .OCRs have been around since the 1950s, but only recently have become practical and afford-able for all.

When was this technology developed?

The concept of having a machine read printed text has been around for a long time. However, it did not become practical until the advent of the computer. In 1951, a young Department of Defense engineer named David Shepard developed a scanning device in his home that he nicknamed 'Gismo.' This device could read twenty-three letters of the alphabet, interpret Morse code and read typed text aloud letter -by -letter. While crude by today's standards, it nevertheless captured the imagination of scientists and businessmen alike with its potential as a practical busi-ness tool in the data entry field. 'Gismo' garnered quite a bit of publicity and conse-quently spurred on the further development of OCR technol-ogy.

Limitations, Opportunities and Prospects

Many applications of pat-tern recognition, the basis for OCR reading, are being currently used and refined. The ability to recognize faces and other objects by OCR technology has not yet been fully developed (see "OrCam" description below. The growth of the global community represents a tremendous opportunity for OCR software developers. The ability to communicate across cultures is and will increasingly be an essential of modern busi-ness. Currently, development of 'universal' OCR software is a burgeoning field. This is the ability to scan a foreign document, convert it to a foreign text document, and then translate it into another language. There are now pro-grams that can convert text to other languages in print or as the spoken word.

Exclusive Online Videos Featuring World's Leading Eye Researchers

Dr. David Seftel, Director of Research Development for the Macular Degeneration Founda-tion, is interviewing the world's foremost scientists and medical practitioners who are actively in-vestigating cures and treatments for Macular Degeneration and related eye diseases.

Visit **MacularNews.org** for the latest news and register to re-ceive an email notice when new videos are first posted.

Donations

The Macular Degeneration Foundation, Inc. is a tax-exempt, non-profit organiza-tion.

Please visit our website at eyesight.org to make a tax deductable donation.

Checks may be mailed to:

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Henderson, NV 89053

Call: 888-633-3937 (USA)
Call: 702-450-2908 (Intl)
Email: liz@eyesight.org

Disclaimer - Articles in the Magnifier are for information only and are not an endorsement by the Macular Degeneration Foundation editorial staff.

From Our Readers

Danica Nesic writes:

I wanted to reach out to you about a podcast (online radio show) that launched in November that may be of interest to people involved with your organization whose lives have been impacted by vision loss.

The host of the podcast is Dr. Shawn Maloney, a former vision scientist who is also legally blind. In each episode of the show, Dr. Maloney discusses topics related to vision loss with invited guests; topics include scientific research, clinical trials, accessible sports, adaptive aids, and much more. Please share this information at your convenience.

Link: **www.asiseeitpodcast.com**

Newsletter Subscriber:

I have ARMD in one eye and poor vision in the other. My ophthalmologist told me that a new RX in my glasses would not benefit my vision at this time. I wanted to buy a new TV. I ended up purchasing a 60-inch Samsung LED LCD Smart TV at COSTCO with a 5-year extended warranty for only $799.99. It has greatly helped me to enjoy television and movies.

In addition, we purchased wireless earphones. Now I don't disturb others and they have a special feature that helps to clarify the sound when I watch older movies or programs with actors that speak with an accent. Also, since I can't afford cable, we bought a ROKU device that offers a wide variety of programming.

I hope this information is of benefit to others that read your newsletter.

"Text-to-Speech" Continued

The Kurzweil Breakthrough

In the mid -1970's, Raymond Kurzweil, a young scientist at the Massachusetts Institute of Technology (MIT) was working on pattern recognition when a chance conversation with a fellow airline passenger who was blind inspired Kurzweil to work on what he was soon calling his "reading machine." This was no easy task Kurzweil had set for himself.

There were many problems with both recognition and speech. Columns, font variants such as italics, punctuation and other deviations from standard text caused problems.

When these problems were overcome, the, the Kurzweil Reading Machine went into production. The first models were slow, prone to error and expensive. The first Kurzweil readers, available in the 1980s, cost $30,000.

Kurzweil continued to improve his product and by 2000 had produced the Kurzweil 1000, which was much smaller, more efficient and cost about $1,000.

In the early 2000's, as digital cameras and handheld computing devices became more powerful and popular, Kurzweil envisioned a new opportunity. In collaboration with the National Federation of the Blind, he began work on an OCR reader that would work on the I Phone. In 2013, the "Kurzweil National Federation of the Blind Reader" was introduced as the KNFB app for the I Phone at a cost of $99. Other OCR apps are now available for almost all smart phones and tablets, some even less expensive than the KNFB reader.

Who Benefits from OCR Readers?

Only a few short years ago, a blind or severely visually impaired person handed a page of ordinary text had no way of knowing what the content was. Today, they can simply use their desktop or smart phone OCR reader and hear it read within a few seconds.

MD Support and Prevent Blindness America Establish New On-Line Resource

The new resource provides an extensive list of searchable resource directories, a database of 1,500 municipal paratransit services, a library of self-help guides and workbooks, and up-to-the-minute news.

This marks the first time in Internet history that two major organizations have joined in such a dramatic way to bring both education and support to the entire global low vision community.

See **lowvision. preventblindness.org** or **mdsupport.org**

Are You Missing Out on Benefits?

April Issue of AARP by Joan Rattner Hellman

If you're struggling to pay for health care, food, or utilities, help may be closer than you realize.

Older Americans miss out on more than $20 billion worth of benefits every year. A nationwide campaign launched by the National Council on Aging and the National Association of Area Agencies on Aging aims to help older adults learn about two easily accessed resources that can connect them to needed support.

BenefitsCheckUp (benefitscheckup. org)

Eldercare Locator (1-800-677-1116 or eldercare.gov)

"Text-to-Speech" Continued

Many with mild or moderate vision loss prefer to read text enlarged by optical or electronic magnifiers. Others would rather listen to text being read rather than struggling with magnifiers. These preferences will undoubtedly change as the cost and ease of use of readers improves.

Voice to Text, Voice Activation of Computers and Smart Phones

There are also voice-to-text programs, such as Dragon that convert voice to text on a computer. This can then be read back for editing. Voice-to text can be modified to allow those with motor problems (as, a quadriplegic) to interact with computers.

Siri, Voice Over and other speech recognition programs, are now part of everyday life.

The Future

If the last few years are any indication, we will have continued improvement in the quality and capabilities of OCR and other pattern recognition software. Reading and recognition at distance, bone conduction of sound, facial expressions, cursive handwriting interpretation and other hurdles may soon be overcome. Technology marches on to the advantage of those who need help seeing and interpreting their surroundings.

What is available today?

The following is not a comprehensive or complete list, nor does not express any preferences. It is simply intended to give a rough idea of some of the more widely used products.

Stand-alone and Desktop OCR Readers

Freedom Scientific:
SARA Scanner/Reader $2,395.00
SARA CE $1,895.00
EyePal Reader $1,995.00

Optelec:
Clear Reader + Basic $1,995.00
Clear Reader + Advanced $2,245.00

Combined CCTV/OCR Readers

Optelec:
ClearView Speech $3,895.00

Human Ware:
Prodigi 24" $2,695.00

Enhanced Vision:
DaVinci Pro $3,795.00
DaVinci $2,995.00
Merlin Elite $3,195.00

Smart Phone OCR Readers

There is an OCR reader in all IPhones, Android and Google phones which are free but funtionally limited.

The Prizmo, an app costing $9.99, is of fair quality but relatively slow.

The OrCam is a more sophisticated OCR reader which can be mounted on ordinary glasses. It recognizes text, products, faces, and speaks to you through a mini earpiece. It costs $3,500

The KNFB Reader (Kurzweil/ National Federation of the Blind) is available for both IPhone and Android devices. It provides a sophisticated, accurate OCR reader which is fast and easy to operate. Advanced features include the ability to save multiple pages of information. At $99, it is a bargain and very helpful to the severely impaired or totally blind.

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Patrons may order talking books by contacting their local cooperating library. Contact information is online at www.loc. gov/nls/find.html or call 1-888-657-7323

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Chaplainsonhand. org for spiritual support or call toll free 1-844-242-7524