

Association of PC User Groups (APCUG) Member

July 31st General Meeting Topic Clearw^ore Wireless High Speed Broadband Internet Presented by Mike Schwartz

Clearwire will change the way Dayton goes online by eliminating wires and cables.

Internet Service Provider to Introduce Dayton area to Wireless High-Speed Broadband Internet and Phone Access

Soon - Clearwire Corporation (NASDAQ: CLWR) is bringing the freedom of wireless broadband Internet services to Dayton.

Residents and businesses will soon have a fast, simple, portable, reliable and affordable alternative to traditional dial-up, cable and DSL. Clearwire service eliminates the confines of traditional cable or telephone wiring, allowing customers to connect at home, a local coffeehouse, the office or virtually anywhere else in the Clearwire service area.

The Clearwire Difference

From students or realtors to entre-

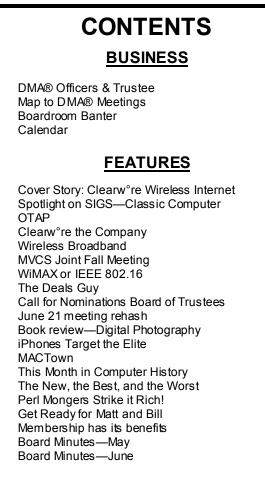
preneurial accountants or construction site managers, Clearwire is an ideal solution for anyone in search of portable high-speed Internet service. Clearwire's next-generation, nonline-of-sight wireless broadband network solution connects customers through licensed or secured spectrum. Radio signals are transmitted from a tower to a small, wireless modem, which easily connects a user's computer to the Internet. With its simple plug-and-play installation customers can be on the Internet within minutes of set up

In addition to wireless broadband Internet access, Clearwire also offers Internet phone services. Clearwire Internet Phone Service works with a customer's existing highspeed Internet access and provides unlimited local and long-distance calling from a regular telephone. Customers can dial family and friends in all 50 states, Canada and Puerto Rico

About Clearwire

Clearwire, founded in October 2003 by Craig O. McCaw, is a provider of reliable, wireless high-speed Internet service. Headquartered in Kirkland, Wash., the company launched its first market in August 2004 and now offers service in 40 U.S. markets, covering approximately 9.9 million people in more than 420 municipalities in 13 states as well as approximately 1.2 million people in Ireland and Belgium with its network. In addition, wireless high-speed Internet services are offered in Mexico and Denmark by Clearwire's partners, MVS Net and Danske Telecom. Assuming closing of all pending spectrum purchases, Clearwire's spectrum portfolio covers approximately 223 million people in the U.S. with varying amounts of spectrum. For more information, visit www. clearwire.com.

Next Month: Matt Hester and Bill Steele of Microsoft Corporation will be here on August 28th.



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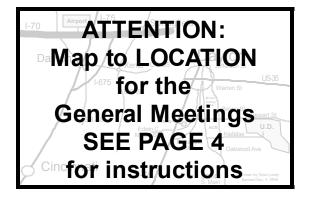
DMA[®] MEETINGS

GUESTS ARE ALWAYS WELCOME

eetings start at 7:00 p.m. Visit us on the web at www. dma.org or email to info@dma.org for information or directions.

Our monthly General Meeting consists of a brief opening, SIG and committee reports, announcements, and a 60-90 minute program by a guest speaker, followed by door prizes for members. After the meeting, the group adjourns to a local eating establishment to socialize.

Our meetings are held at the Huber Heights Athletic Foundation (HHAF) Center. For last minute announcements always check www.dma.org



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22	COMMITTEE CHAIRS					

Glady Campion

OTAP Membership

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Volume 32 Issue 6

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The deadline for submitting material is the first of the month of publication. Submit files to the editor, editor@dma. org, preferably as an email attachment in MS Word, Wordperfect, or .TXT (with line breaks). The editor reserves the right to edit for clarity, length & style, and to hold or reject any portions of submitted copy.

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Editor Calendar tact our Editor at: The DataBus, P.O. Box 4005, Dayton, OH 45401-4005 or email to: editor@dma.org.

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Best User Group Coverage Large Newsletters '98 & '99 InterGalactic Conferences New York, NY

D MA® sponsors numerous Special Interest Groups (SIGs) catering to the individual interests of its members. Want to start a new SIG? Contact a DMA® Officer or Trustee!

Amateur Radio SIG meets the 1st Tuesday of each month, 7:00 p.m. at 119 Valley Street. Contact Todd Collins: 937-545-7015 toddc @ woh.rr.com or Shawna Collins: sjcollins @ woh.rr.com www.dma.org/k8dma

Apple-Dayton SIG meets the 3rd Monday of each month, 7:00 p.m. at the Huber Heights Athletic Foundation Center, 5367 Fishburg Road, Huber Heights. Contact Dan Forshaw: AppleDaytonSIG @ dma.org www.dma.org/appledaytonsig

Classic Computer SIG meets as needed the 1st and 3rd Saturday. of each month, 3:00 p.m. at the Sugar Grove Church, 7875 Kessler Frederick Road, Tipp City, 45371. Contact Gary Ganger: 937-237-5021 gangerg @dma.org

Digital Photography SIG meets the 4th Thursday of each month, 7:00 p.m. at Wright State University, Room 240 Allyn Hall.. Contact Nancy Christolear: 937-439-1735 njc @dma.org www.dma.org/photosig

DMA[®] SIGs

Gaming SIG meets the last Saturday of each month at 4:00 p.m. for a 24-hour LAN-party at 119 Valley Street. Contact David Neely: nherzhul @h otmail.com www.DaytonLANfest.com

Genealogy/Family History SIG meets the 1st Thursday of each month at 7:00 p. m. at 119 Valley Street. Contact Jay Finley: jotaito @ aol.com

Hands-On-SIG meets the 2nd Tuesday and 4th Wednesday of each month, 7:00 p.m. at 119 Valley Street. Contact Elliott Lake: 937-376-4581

Linux SIG meets the 3rd Thursday of each month, 7:00 p.m. in Wright State's Student Union. Contact Gary Turner: 937-313-2487, or Tony Snyder: 937-275-7913 or DLUG-contact @ dma.org www.dma.org/linuxsig

Perl Mongers meets the 2nd Wednesday of each month, 7:00 p.m. at 119 Valley Street. Contact Paul Ahlquist: pea @ ahlquist.org <u>http://dayton.pm.org</u> **Software Development SIG** meets the second Thursday of the month at 7:00 pm at 119 Valley Street. Contact Glady Campion at campiong @ dma.org for more details.

Pizza SIG is held immediately after every General Membership meeting with plenty of casual conversation, friendly debates, and of course, Pizza!

Come join us!

More SIG information is available online at www.dma.org/sigs.shtml.

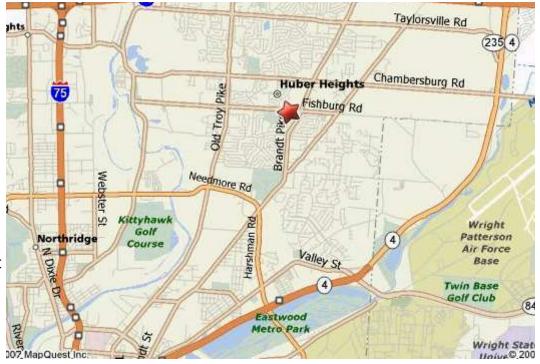


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DMA® General Meeting

O ur general meeting is at the Huber Heights Athletic Foundation (http://www.hhaf.us). The meeting hall is located about 6 miles from Downtown Dayton.

Directions: From Downtown Dayton take Route 4 to the Harshman Road Exit. Turn left (north) on Harshman to Brandt Pike (Rt. 201). Turn Right and follow Brandt Pike approximately 2 miles to Fishburg Road and turn left (west). The Huber Heights Athletic Foundation is located at 5367 Fishburg Road, about a quarter mile from the intersection of Fishburg and Brandt Pike.





Parking is FREE!

Boardroom Banter

Booth at Hamvention

MA and the Ham SIG did a booth at Hamvention this year. We were in the Flea Market area reserved for Amateur Radio Clubs. We flew our DMA banner, showed pictures from the Computer Museum, and handed out HAM SIG info. Glady Campion, Gary Ganger, and Gary Turner were the primary tent-sitters. The booth was laid out as a club handout and worked quite well in attracting HAM SIG members, current and former DMA members, and even a few Computerfest regulars. We had three full days of reminiscing and story-telling. Many thanks to DMA members who helped out.

Game SIG Appointment

Stewart "Chow-Yun-Fat" Ross has stepped forward to become Assistant Leader for the Gaming SIG. He will work with David Neely in running the monthly mini-LANs and in planning the next gaming event. Stewart has been a DaytonLANfest staff member for more than a year and is a regular at all the Game SIG activities. We're expecting great things from this pair!

New Landlord

DMA now has a new landlord, RJC Com-

mercial, and is in the process of negotiating a new lease. The new owners are a husband and wife team with experience in residential rentals. We will be their first commercial tenants. They are already making plans for improvements to the building.

Game SIG supports Piqua LANfest

In the interest of community support the DMA provided switches for use at the Pigua LANfest held June 30th. Many Game SIG regulars as well as Dayton LANfest regulars helped to support this new outing. Watch the Dayton LANfest website (www. daytonlanfest.com) to see the latest on our Software Development SIG Reboot community activities.

Classic Computer SIG to bring Computer Museum to Dayton Air Show.

The Dayton Air Show has asked us to provide our Computer Museum for the weekend of July 26-29. A 20' x 30' space is being provided for the display. Gary Ganger is spearheading the effort to bring all the equipment out to the show. He is in need of volunteers to help move, setup, man, and teardown the displays. Volunteers get the following benefits:



- Carpasses (a \$7 value)
- Air show ticket(s), one for each half ٠ day they work (a \$19 value)

The Computer Museum will be part of the Aerospace Adventures, or A2 which is free and open to the public. Over 40 interactive, hands on activities, experiments, and demonstrations are provided to the public. With the shrinking workforce for scientific and technical specialties, A2's goal is to increase the awareness and appreciation of science and engineering to the young people around the world.

Dale Childs and Glady Campion are attempting to "reboot" the Software Development SIG. We will meet at 119 Valley Street on the second Thursday of the month 7:00pm - 9:00pm. Meetings will start by going around the table to hear what projects the attendees are currently working on. The main topic may be a how-to demo or a discussion. Expect topics to be current and related to all aspects of software development.

For more information, please contact Glady Campion, campiong @dma.org

Spotlight on SIGs—Classic Computer SIG

he Classic Computer SIG of the Dayton Microcomputer Association, Inc. is the keeper of the Dayton Computer Museum. Classes in older computer hardware and software are taught by the Curator, Gary Ganger, on the 1st and 3rd Saturday of each month from 3 to 5 P.M. at the Sugar Grove Bible Church, 7875 S. Kessler-Frederick Road. The church is located 3 miles north of US-40 between Englewood and Vandalia on Frederick Pike music, graphics, DOS, Win3.1, Win95, just inside Miami County past Miller's Grove, and across from Miller Brothers Construction.



The meetings consist of computer classes on the older computers that are no longer sold. They are open to the public at no charge. DMA® members are encouraged to come and get answers to their computer guestions that are not available from the local computer stores. The classes cover software and hardware and how to upgrade or repair common troubles. Software covers spreadsheets, word processing, Win98, WinNT, and Win2K. Hardware covers memory, disk, CD, floppy disks, zip drives, power supply replacement, cleaning, etc. All classes are tailored to the needs of the members and can be most subjects at any time. If you call Gary at 237-5021 during the week, he can prepare to answer your questions or many times a guick answer on the phone is all that you may need. Past classes showed how to connect the computer to MIDI keyboards and writing music on the computer. Making a spreadsheet to balance your checkbook. Making a form to fill out for daily records.

Replacing a bad CD recorder and cleaning. Downloading your photos. Replacing a bad power supply. Running anti-virus software and updates. Rebuilding hard disk systems after a crash. The classes can also show the pre-PC computers that are in the Dayton Computer Museum. The students from Wright State will be getting information for their class work as assigned by their professors. Local computer stores have sent customers to the meetings to get help on the older machines. You have questions? We really have the answers!

Call Gary Ganger at (937) 237-5021 for more info.



Club Purpose and Membership

The Dayton Microcomputer Assn., Inc. (DMA®) is an Ohio non-profit organization dedicated to the education of, and providing information to, microcomputer users and the general public. DMA® members use and own a wide variety of computers and possess various levels of computer experience.

Annual dues are \$25 for regular members, which includes a subscription to *The DataBus* newsletter, and \$12.50 for associate members living at the same address. Associate memberships must run concurrently with a regular membership. A membership application is located on page 23, or can also be downloaded from our web site at: http://www.dma.org/dma-app.shtml

OTAP Bridging the GAP

Ohio Technology Access Project is a rather long name for a very worth y cause. OTAP is part of DMA's effort to "bridge the digital divide". We are one of only a few Microsoft Authorized Refurbishers in Ohio. We operate under DMA's 501c(3) non-profit designation. This is a group of devoted volunteers who generously gives of their time and talents to rework old hardware into usable PCs. The work is sometimes challenging but always rewarding.

Bridging – Our mission is to place computers and internet access into the hands of those with the most need and the least opportunity. We place computer systems with schools, churches, charities, individuals, and families. Most of our clients are disabled or financially disadvantaged. Each tells us how a computer system would improve their education, opportunities, even quality of life. Refurbishing – Many of the computer systems we work with are donated by individuals, some are from organizations or companies. They come in all speeds, shapes, and sizes. The equipment is evaluated and tested for functionality. Repairs and modifications are made if necessary so that the system matches our standards.

Recycling – We are able to reclaim and reuse many of the computer parts. Hardware that is below speed or not repairable is disassembled and the pieces are sorted and recycled. We work hard to avoid adding any materials to local landfills.

Donating – For individual donors, OTAP offers a second life for that slightly outdated system that is taking up valuable space on your desk or dining room table. We handle each system with care and find it a good home. For corporations, we ease the upgrade process, help avoid landfill costs, and provide and great opportunity to contribute to the community.

Training – The best kept secret of OTAP is the training. For those who are computer-phobic, we provide easy procedures and plenty of assistance while you learn to take apart and rebuild computers. Students working towards certification can get that valuable hands-on experience. Volunteering at OTAP is always an opportunity to stay current, upgrade your skills, or debate some obscure compatibility issue.

OTAP is open on Saturdays from 10:00 until 2:00. Anyone is welcome to stop by and have a look at the process. You can reach us by phone at (937) 222-2755 or on the web at <u>www.otap.org</u>.

CLEARANCE! MAKE AN OFFER!

OTAP has surplus items in good working condition available to the members of DMA. For more information, visit OTAP, or call 222-2755.



- Cables
- Monitors
- CD-ROM drives
- Keyboards & Mice
- Travan Tape Drives
- Zip Drives
- NİC's
- SCSI Cards and cables

- Scanners
- Printers
- Servers
- Systems

Hours of Operation

Tues-Wed-Thurs 9am-5pm Friday by appointment only Saturday 9am-5pm Closed Sunday & Monday

Clearw°re the Company

I hat is Clearwire?

Clearwire is a provider of simple, portable, fast and reliable wireless Internet access and services.

Clearwire utilizes next-generation, nonline-of-sight wireless technology.

Founded by Craig McCaw in October 2003, Clearwire is headquartered in Kirkland, Washington.

What is Clearwire service?

Clearwire provides a simple, "off-theshelf" wireless broadband Internet solution. Establishing Clearwire service involves a plug-and-play installation - no need for a technician to configure additional hardware and no need for software to be loaded onto computers to make it work. Customers can establish an Internet connection in minutes.

Customers use Clearwire to connect to the Internet using licensed spectrum, thus eliminating the confines of traditional cable or phone wiring. The tower equipment Our website features a map of our covertransmits radio signals from a base site to age: www.clearwire.com. a small, wireless modem the size of a paperback book, which easily connects a user's computer to the Internet.

The portable Clearwire service can be moved from place-to-place inside Clearwire's coverage area, which allows customers to use the service throughout their In what future markets can we expect home, office or favorite coffee house.

Clearwire launched its VoIP (voice over internet protocol) service on April 10, 2006. The company currently offers Clearwire Internet Phone Service in 13 markets across the United States.

Is Clearwire similar to a Wi-Fi hot spot?

Clearwire's technology goes beyond what the typical Wi-Fi hot spot provides. Clearwire either owns or leases the spectrum over which it broadcasts its signal, providing a high-quality connection not subject to interference, and a secure portal not available when using the Internet in a hot spot.

And unlike hot spots, which offer Internet access in specific, pre-determined loca-

tions, Clearwire provides

service anywhere inside its market coverage footprint. The end result is a portable, secure, high-speed experience.

How many subscribers use Clearwire service in the United States and abroad?

258,000 customers as of March 2007.

Where is Clearwire available?

Clearwire launched its first commercial market in Jacksonville, Florida on August 26,2004.

Clearwire currently operates in 39 markets across the U.S. in 13 states. Clearwire currently offers service in more than 420 cities and towns in Alaska, California, Florida, Hawaii, Idaho, Minnesota, Nevada, North Carolina, Oregon, Texas, Virginia, Washington and Wisconsin.

Our international markets include Ireland, Belgium and Denmark (under the Clearwire name with (Danske Telecom).

Where does Clearwire typically build markets?

Clearwire operates in markets of all sizes and shapes, including urban, suburban and rural areas.

to see Clearwire?

While we do not comment on specific deployment plans, we will continue to roll out our networks in select U.S. and international markets.

Does Clearwire only target underserved markets?

Cable and DSL alternatives are available in most Clearwire markets.

How fast is Clearwire's service?

In the US Clearwire offers up to 1.5 Mbps download and up to 256 kbps upload speeds.

In other markets such as Belgium, Clearwire offers up to 3Mbps download and up to 256kps upload speeds.

From www.clearwire.com

How much does Clearwire service cost?

Costs may vary by market and are highly competitive with DSL and cable modem services. Our service plans range from \$29.99 - \$49.99. Visit https://www. clearwire.com/order entry/web/pregual. php to find rates for specific service areas.

What is Clearwire's approach to mobile WiMAX?

At WiMAX World on October 11, 2006. Intel and Clearwire unveiled the first step in creating one of North America's first mobile WiMAX trials, with service to be provided by Clearwire.

On July 5, 2006, Clearwire, Intel and Motorola announced that they are collaborating to accelerate the development and deployment of mobile WiMAX across the United States.

Clearwire is working with Intel and Motorola on both the standards process and the development and evolution of network infrastructure that will allow us to deliver services that are fast, reliable and mobile.

Clearwire believes the agreements significantly advance Clearwire's vision for providing seamless broadband access choices - including fixed, portable and mobile.

We expect the collaborative effort and evolution to a mobile WiMAX technology will provide the benefits of a standardsbased platform. This effort will bring enhanced services and more differentiated value-added solutions to our customers, while we continue to provide the simple, high-speed, portable broadband access Clearwire customers enjoy today.

How to Buy Clearwire?

To purchase, call 1-888-CLEARWIRE or go to www.clearwire.com. Customers can also buy Clearwire at Best Buy and Circuit City stores, located in each of the Clearwire markets, as well as at Clearwire authorized representatives, Clearwire retail locations and mall kiosks.

Wireless Broadband

/ ireless Broadband is a fairly new technology that provides highspeed wireless internet and data network access over a wide area.

The Term Broadband

According to the 802.16-2004 standard, broadband means 'having instantaneous bandwidth greater than around 1 MHz and supporting data rates greater than about 1.5 Mbit/s'. This means that Wireless Broadband features speeds roughly equivalent to wired broadband access, such as that of ADSL or a cable modem.

Technology and Speeds

Many Wireless Broadband services provide average download speeds of over 100 Mbit/s, and are estimated to have a range of 50 km (30 miles)[citation needed]. Technologies used include Local Multipoint Distribution Service (LMDS) and Multichannel Multipoint Distribution Service (MMDS), and one particular access technology is being standardized by IEEE 802.16, also known as Wi-MAX (Worldwide Interoperability for Microwave Access).

At first, Wireless Internet Service Providers (WISPs) were only found in rural areas not covered by cable or DSL. These early WISPs would receive a large connection, such as a T1 or DS3 connection, and then prodcast signal from a high elevation, such as at the top of a water tower. To receive this type of internet, consumers would mount a small dish to the roof of their home or office and point it to the transmitter. Line of sight was usually necessary for this type of technology, but technologies by Motorola have not adhered to this general rule.

Mobile Wireless Broadband

Now, Wireless Broadband technologies include new services from companies such as Verizon, Sprint, and Cingular, which allow a more mobile version of this

From Wikipedia, the free encyclopaedia

broadband access. Consumers can purchase a PC-card, laptop-card, or USB equipment to connect their PC or laptop to the internet via cell-phone towers. This type of connection would be stable in any area that could also receive a strong cellphone connection.

Licensing

A wireless connection can be either licensed or unlicensed. In the US, licensed connections use a private spectrum the user has secured rights to from the FCC. In other countries, spectrum is licensed from the country's national radio communications authority (such as the ACMA in Australia). Licensing is usually expensive and often reserved for large companies who wish to guarantee private access to spectrum for use in point to point communication. Because of this, most wireless ISP's use unlicensed spectrum which is publicly shared and therefore more prone to interference.

Miami Valley Computing Societies **Fall Joint Meeting**

hursday, September 27, 2007 at the David H. Ponitz Center, Sinclair Community College

What is Web 2.0 and What it Means for Business

"Like many important concepts, Web 2.0 doesn't have a hard boundary, but rather, a gravitational core. You can visualize Web 2.0 as a set of principles and practem of web sites that demonstrate some or New Technology Group all of those principles, at a varying distance from that core."

Web 2.0 refers to a wide range of emerging technologies and user behaviors, and has been referred to as the "participatory web." the "read/write web." and the foundation for the "you" era. Web 2.0 has given rise to a Renaissance of activity. enabled by greater bandwidth, the maturation of technologies, and the creativity of people creating and using the web.

This presentation will provide an overview of web 2.0, organized by the 7 original "memes" that appeared in the article by Tim O'Reilly (of O'Reilly media), in which he applied the web 2.0 label to a collection of trends he observed. Particular focus will be given to the design of products in the web 2.0 world as well as how web 2.0 is manifesting itself in the enterprise.

tices that tie together a veritable solar sys- Presented by Dr. Rich Miller, Lexis Nexis

- The 7 Memes of Web 2.0:
- The Web as a Platform
- Harnessing Collective Intelligence
- Data is the Next Intel Inside
- End of the Software Release Cycle
- Lightweight Programming Models
- Software Above the Level of a Single Device
- -Rich User Experiences

This is a dinner meeting so reservations are required. The dinner cost is \$25 per person which includes parking in the garage under the Ponitz Center. The Chef's Choice Buffet consists of: Salads, 2 Entrées, choice of vegetable, Assorted breads and rolls, coffee, tea or iced tea & chef's sweet table.

Reservations due by Monday September 24, 2007. Download the reservation form at http://www.soasist.org/mvcs/2006.html

DMA® is looking for a few good men and women.

WiMAX or IEEE 802.16

Excerpted from Wikipedia, the free encyclopaedia

WiMAX is defined as Worldwide Interoperability for Microwave Access by the WiMAX Forum, formed in June 2001 to promote conformance and interoperability of the IEEE 802.16 standard, officially known as WirelessMAN. WiMAX aims to provide wireless data over long distances, in a variety of different ways, from point to point links to full mobile cellular type access. In practical terms this enables a user, for example, to browse the Internet on a laptop computer without physically connecting the laptop to a wall jack. The Forum describes WiMAX as "a standardsbased technology enabling the delivery of last mile wireless broadband access as an alternative to cable and DSL."

Uses

The bandwidth and reach of WiMAX make it suitable for the following potential applications:

* Connecting Wi-Fi hotspots with each other and to other parts of the Internet.

* Providing a wireless alternative to cable and DSL for last mile (last km) broadband access.

* Providing high-speed data and telecommunications services.

* Providing a diverse source of Internet connectivity as part of a business continuity plan. That is, if a business has a fixed and a wireless Internet connection, especially from unrelated providers, they are unlikely to be affected by the same service outage.

* Providing nomadic connectivity.

Broadband access

Many companies are closely examining WiMAX for "last mile" connectivity at high data rates. This could result in lower pricing for both home and business customers as competition lowers prices.

In areas without pre-existing physical cable or telephone networks, WiMAX may be a viable alternative for broadband access that has been economically unavailable. Prior to WiMAX, many operators have been using proprietary fixed wireless technologies for broadband services.

WiMAX access was used to assist with communications in Aceh, Indonesia, after the tsunami in December 2004. All communication infrastructures, other than HAM in some developing countries, the costs to Radio, in the area were destroyed making the survivors unable to communicate with people outside the disaster area and vice versa. WiMAX provided broadband access that helped regenerate communication to and from Aceh so that the condition posttsunami could be retrieved.

Subscriber units

WiMAX subscriber units are available in both indoor and outdoor versions from several manufacturers. Self-install indoor units are convenient, but radio losses mean that the subscriber must be significantly closer to the WiMAX base station than with professionally installed external units. As such, indoor installed units require a much higher infrastructure investment as well as operational cost (site lease, backhaul, maintenance) due to the high number of base stations required to cover a given area. Indoor units are comparable in size to a cable modem or DSL modem. Outdoor units are roughly the size of a laptop PC, and their installation is comparable to a residential satellite dish.

With the advent of mobility ("16e"), there is an increasing focus on portable units. This includes handsets (similar to cellular smartphones) and PC peripherals (PCMCIA cards or USB dongles). In addition, there is much emphasis from operators on consumer electronics devices (games terminals, MP3 players and the like); it is notable this is more similar to WiFi than 3G cellular technologies.

Mobile applications

Some cellular companies are evaluating WiMAX as a means of increasing bandwidth for a variety of data-intensive applications; Sprint Nextel announced in mid-2006 that it would invest about US\$ 3 billion in a WiMAX technology buildout over the next few years.

In line with these possible applications is the technology's ability to serve as a high bandwidth "backhaul" for Internet or cellular phone traffic from remote areas back to an Internet backbone. Although the cost per user/point of WiMAX in a remote application will be higher, it is not limited to such applications, and may be an answer to reducing the cost of T1/E1 backhaul as

well. Given the limited wired infrastructure install a WiMAX station in conjunction with an existing cellular tower or even as a solitary hub are likely to be small in comparison to developing a wired solution. Areas of low population density and flat terrain are particularly suited to WiMAX and its range. For countries that have skipped wired infrastructure as a result of prohibitive costs and unsympathetic geography, WiMAX can enhance wireless infrastructure in an inexpensive, decentralized, deployment-friendly and effective manner.

Future development

Mobile WiMAX based upon 802.16e-2005 has been accepted as IP-OFDMA for inclusion as the sixth wireless link system under IMT-2000. This can hasten acceptance by regulatory authorities and operators for use in cellular spectrum. WiMAX II, 802.16m will be proposed for IMT-Advanced 4G.

The goal for the long term evolution of both WiMAX and LTE is to achieve 100 Mbit/s mobile and 1 Gbit/s fixed-nomadic bandwidth as set by ITU for 4G NGMN (Next Generation Mobile Network) systems through the adaptive use of MIMO-AAS and smart, granular network topologies. 3GPP LTE and WiMAX-m are concentrating much effort on MIMO-AAS, mobile multi-hop relay networking and related developments needed to deliver 10X and higher Co-Channel reuse multiples.

Since the evolution of core air-link technologies has approached the practical limits imposed by Shannon's Theorem, the evolution of wireless has embarked on pursuit of the 3X to 10X+ greater bandwidth and network efficiency gains that are expected by advances in the spatial and smart wireless broadband networking technologies. What will clearly define 4G more than either WCDMA or OFD MA wireless link methods will be wireless networks that more effectively adapt to and take advantage of available spectrum.

Current deployments

The WiMAX Forum now lists over 350 Wi-MAX trials and deployments. Current and planned deployments and the bands in which they operate and the standards they use are listed in above article.

Run for the Board of Trustees this September!

August 2007

The Deals Guy

by Bob "The Cheapskate" Click Greater Orlando Computer User



*E-mail Address Change

I 've had my fill of Earthlink as an ISP. Talking to techs with bad English is frustrating, not to mention ongoing e-mail problems. The final decision came when my phone became accidentally disconnected by Bell South. After it was reconnected, but no DSL, the tech I spoke to had me unplugging and plugging wires, and finally asked me to unplug the very line I was talking on from the wall plug (I asked if she was sure before I did it), and she never called me back. Also, their price was too high. I finally decided on AT&T who offered the best deal I found, but I still have to rely on techs speaking bad English. My new e-mail address is < bobdick at bellsouth dot net >. (I hope that strange formatting will avoid address spiders). Already I ran into poor tech support. I was three days late getting my DSL up and running because their own network had problems, and their tech support was slow getting someone to the house for further troubleshooting. They do not enter the house without a charge, but will check up to the outside box. She called the office for DSL light and I was finally in business.

*Help For The Sight Impaired

I saw this article in ComputerWorld about the efforts of the city of Stockholm to provide voice instructions for guiding the blind, or people with poor vision, to wherever they want to go without other help. It is a serious undertaking and sounds promising. See it here: http://snipr. com/1nv45>.

*What About The Centralizing Of Medical Records?

I'm sure you've read about the desire for a centralized database of medical records for every individual so doctors can have quick access to your complete records. This interesting article talks about some of the efforts <http://snipr.com/1nv46>. Yet, that has not even come close to fruition so far. Everybody has a different approach including the many companies trying to develop products to accomplish it. Then there's the HIPPA law, along with other

concerns about confidentiality, and your medical records. I worked in a UAW retiree office for two years helping retired members with benefit problems. Most were trying to get medical bills paid. Calling insurance companies and medical centers was an exercise in frustration after the HIPPA law took affect. You had to hope for a friendly person who would try to work around that law to solve the problem, even after telephone permission from the subscriber. The office person on the other end couldn't actually see us both sitting there and often refused to help.

When I ran the Medistick product a few months ago (a USB Flash Drive to contain your personal medical information in PDF format for doctors to access). I thought that was a good idea, but now I'm not so sure because of the different software and office procedures used by doctors, and their efforts to keep office costs down. When I tried a new cardiologist last year I mentioned various doctors I had seen in the last few years. He wanted to contact them all for my records to do his homework. On my next visit, he had done that and most used paper records, but he gave me two CDs with medical information from other offices saying his software was not compatible with their format. Those were extremely important medical records that were useless to him that way. I visited those offices to get my records on paper, although it was difficult to find a helpful secretary.

If I had a USB Medistick, how would a doctor want my medical information organized and formatted to be useful? It's a safe bet that few doctor's offices will put that information on your Medistick since they are concerned about the time to prepare it for you.

So far, even President Bush's intervention has had little affect on the push for centralization of medical records. We are the ones suffering the repercussions of this lack of coordination. If I could simply get a report on the office visit, or procedures performed, from that doctor's office, perhaps I could type it up myself on the Medistick if there was a centralized format. As you know, there are other problems if you want to record doctor data for your own reference since they often aren't willing to give it to you. Also, the public is very suspicious about any governmental control of that information, and who would be exceptions to the rules, such as a prospective employer? If you got sick on a distant vacation, seems like that central database could be invaluable to a doctor or ER.

*Be Aware!

These are announcements I received, but I have not tried any of them.

*Keep Track of Your Ink

AVPSoft.com has announced APFill Ink Coverage Meter 4.2. You can determine the cost of a document, and if needed, optimize the pages to spend less ink or toner and consequently money. APFill Ink Coverage Meter is ideal for home users who have a color printer, or print shops that print a large number of copies. Usually printer owners rely on the printer manufactures that describe ink usage as being 5% ink coverage of an A4 page. With AP Fill Ink Coverage Meter in place, you will know the exact ink coverage and determine the accurate cost of a printed copy based on such properties as paper density, paper format and original color density.

APFill users can measure the ink coverage of the highlighted screen area when, for example, they preview the page in a graphic editor before printing. It's also possible to measure the ink coverage for every single page, or for the entire document in either PostScript or PDF format with CMYK separation up to 8 color spots. There's also a 'Selected area surface measurement' feature, allowing you to measure the area filled in with a specified color. The measurement results can be displayed in either pixels or any userdefined units.

(Continued on page 11)

The Deals Guy (cont.)

(Continued from page 10)

APFill Ink Coverage Meter 4.2 is available for \$79.95 (US) for a single-user license. We offer user group members a 10% discount on the purchase of APFill Ink Coverage Meter. The coupon code is AP-FILL10PR. The product requires Windows 2000, XP, 2003 and Vista. Registered users are entitled to free upgrades and technical support. Additional information on the product, as well as its 30-day evaluation copy is available from <http:// www.avpsoft.com>.

Product page link: http://avpsoft.com/ products/apfill/>

Direct download link: <http://www.avpsoft. com/download/apfill.exe> (2.55 Mb)

*Another Data Recovery, But Its Free!

Smart Data Recovery is an effective and powerful, easy-to-use software program that enables the recovery of lost data. Restore your important files absolutely free. Smart Data Recovery is compatible with almost all kinds of data storage devices from computer hard drives to digital cameras. It supports flash drives, floppy disks, memory sticks, PC cards, multimedia cards, and secure digital cards. Smart Data Recovery restores all sorts of files,

including electronic documents and pictures. It restores files from FAT32 and NTFS hard drives and has a really simple interface with Windows operations systems.

Even if the partition table is lost, the program gives you a chance to retrieve your important files. Smart Data Recovery applies a simple yet powerful algorithm that allows restoration of your lost data quickly and effectively. Smart Data Recovery also recovers any deleted files, including MS Office files, images, MP3 and zip files!

Smart Data Recovery runs on Windows NT/2000/XP/2003/Vista. The current version is downloadable free at <http://www. smartpctools.com>. 820 kB. There are other interesting Freeware products listed on their Web site.

*PDF Anyone?

Acrobat is costly and there are cheaper ways to create a PDF. PDF995 can be found at <http://www.pdf995.com>. (There are three free downloads that are adware). People who have used the product say it produces a different file size, but works as well as other PDF software. The free versions display a sponsor page in

your web browser each time you run the software. If you prefer no sponsor pages, you may upgrade by obtaining individual keys for each product at any time for \$9.95 each, and also get e-mail support.

That's it for this month. I'll have more new product announcements on my Web site (not offering a discount). Meet me here again next month if your editor permits. This column is written to make user group members aware of special offers or freebies I have found or arranged, and my comments should not be interpreted to encourage, or discourage, the purchase of any products, no matter how enthused I might sound. Bob (The Cheapskate) Click < bobclick at bellsouth dot net >. Visit my Web site at <http://www.dealsguy.com>.



Call for Nominations for the Board of Trustees

ts that time again. Time to nomi-nate our new trustees. Three positions will be up for grabs. Would you like to have a voice in the decisions that are made as a trustee? Now is the time to let your feelings be known.

In order to be a member of the board of trustees, you must be a paid up regular or associate member of DMA® in good standing for at least 12 been a member in good standing in the month of August of the previous year. In addition, you must be 21

years of age before the date of the election.

Why should you want to be a member of the Board. Well, its the Trustees that are responsible for policy making and oversite of all activities of the DMA®. If you want a voice in how your club is run, this is your chance.

People interested in becoming months prior to the elections and have trustees should inform members of the current board of trustees. A nominating committee will be appointed and nominees will be

recommended by this committee. There will be no nominations from the floor.

Elections take place at our annual meeting in September and your term as trustee begins that night. Bios for interested candidates will be printed in the September Databus.

Be a TRUSTEE! Make DMA what you want it to be!

Joint meeting between DMA® and NASAC June 21, 2007—Dave Whittle



Jim Ullom introduces Dave Whittle, Man of Steel



Record attendance for DMA® and NASAC



Dave enjoys his introduction



Standing Room Only

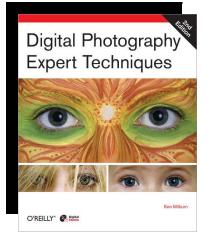


The crowd was spellbound

Dave Whittle addresses a question as attendees look on.

Did you miss the fun? Mark your calendar for July 31st at 7:00 pm for our next meeting

Book Review—Digital Photography Expert Techniques, 2nd Edition



Title: Digital Photography Expert Techniques, 2nd Edition Author: Ken Milburn Publisher: O'Reilly ISBN: 0-596-52690-3 Price: \$44.99

T he author is a digital artist and award winning photographer who has been shooting for nearly fifty years. He has written several books on digital photography.

The book is comprehensive in scope from camera image capture to outputting and presenting your work. It also has some depth in each aspect of the total workflow presented.

I would consider it targeted for the intermediate to advanced digital photographer, either a professional or serious amateur. The approach he describes is a nondestructive workflow. The 12 chapters and 390 pages provide a lot of depth from pulling the camera trigger to presentation. He assumes you have some familiarly with Photoshop. Also, the camera discussed to capture quality level images is the digital SLR which is professional level or advanced user type of equipment. Photoshop CS2 is the version the book covers but the details could be adapted to other versions.

Chapter 1 gives an overview of the book and Chapter 2 covers shooting in camera RAW for the highest image quality and most flexibility for postby Terry Glass, DMA® Digital Photography Special Interest Group

processing.

Chapters 3 thru 10 cover the Photoshop workflow steps and include using Bridge, Processing RAW files, using Layers for nondestructive adjustments to your files, Global and Targeted adjustments, Repairing the image, Combining images such as collages and montages, and creating a WOW factor in ones images.

Chapter 11 cover Special Purpose Processing such as stitching images, extending dynamic range, and converting photos to paintings. Chapter 12 finishes with printing and presenting your work.

I would consider Ken Milburn's book a good choice for a comprehensive image management as it is well written and easy to follow with good illustrations.

Got Something to Sell? Want to Let Some one Know they are Appreciated?

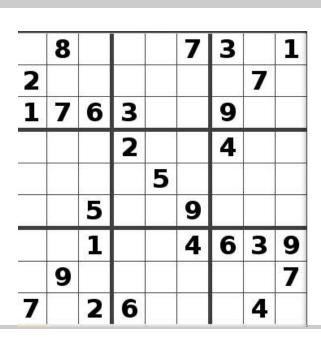
Do it here and now!

 $\ensuremath{\text{DMA}}\xspace^{\ensuremath{\text{B}}}$ members are now able to advertise in the $\ensuremath{\text{D}}\xspace^{\ensuremath{\text{A}}}$ tabus Free of Charge.

ONE CREDIT CARD SIZE ADD PER PERSON!

CONTACT THE EDITORIAL STAFF FOR PARTICULARS—EDITOR AT DMA DOT ORG

Do you SUDOKU?



Answer to the July Puzzle

	3				6			
9	4	2	1	7	8	5	6	3
5	8	6	9	3	2	4	1	7
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iPhones Target the Tech Elite

he new Apple iPhone is scheduled to debut in June 2007, 30 years to the month after the Apple II, the world's first popular PC, appeared. As if it were a comet we have been speculating about and tracking over the past two years, the iPhone is no surprise, but we still can't keep our eyes off it. Like the Apple II, the iPhone will arrive with an impact that affects several domains—financial, technical, and cultural. Although felt immediately. understanding its full impact will take years.

Strategically, the iPhone will help Apple protect and expand its base of iPod devices into the domain of smart phones and converging devices. On the surface, the iPhone is an iPod with an integrated phone. There is, of course, much more.

Technical Marvel

The iPhone's technical specifications are impressive (www.apple.com/ iphone/technology/specs. html). In the tradition of Apple, the iPhone emphasizes aesthetics over features. The device is thin at 11.6 mm, but provides a large, clean display.

The iPhone lacks keys, instead using a 3.5-inch, 480 × 320 pixel touch screen for interacting with the system features. The phone's lack of tactile feedback, other than its two hardware controls-the sleep switch and home button-has provoked much discussion in design and UI blogs. For example, the iPhone's screen will likely fall prey to smudges and fingerprints. Moreover, the display must be lighted to access the simulated keys

and other inputs. However, Apple has had plenty of experience with virtual controls such as the click-wheel interface on the iPod and seems confident users will accept an iPod, and its software works like (and using the human finger as a stylus for the iPhone.

The device also has a plethora of wireless capabilities, including multiple flavors of GSM, Bluetooth 2.0, and WiFi 802.11b/g.

The phone will use AT&T's EDGE technology for two-and-a-half generation (2.5G) data rates of around 250 Kbps, which is much slower than competing 3G technologies such as evolution data only (EVDO). But the primary broadband access method will be the iPhone's Wi-Fi capability, with 50 Mbps in the 802.11g mode.

The iPhone provides small but useful elements such as a proximity sensor to turn the display on and off to save energy because it's not helpful to light up the display if the user isn't positioned to see it. An accelerometer reorients an image depending on how the user holds the handset. The iPhone also extends the Mac OS X franchise by using a smaller, embedded version of the BSD Unix variant. This might

> make the iPhone attractive to third-party developers if Apple decides to open up the device.

User Friendly

From a user perspective, the device incorporates a 2megapixel camera, a Web browser, and iTunes. All the device's communications, computing, and graphics require serious computing horsepower and batteries. The iPhone will have four ARM processors, and Apple claims that battery life will be around five hours for talking, watching videos, and Web browsing on the Internet.

The iPhone represents ma-Figure 1. Built atop a foundature technology that several tion of mature technology that other mobile phones or other mobile devices and PDAs have demonstrated. PDAs have demonstrated. What makes it different is the iPhone's aesthetic appeal that the device's aesthetic hides much of its complexity. appeal hides much of its Photo courtesy of Apple. complexity, as Figure 1 shows. Moreover, the de-

sign integrates well with the vertical market Apple has created for TV, music, and movies. The phone syncs with iTunes just like with) the Mac's.

The iPhone follows a pattern of what Clive Grinver (www.clivegrinver.com/ sitebuildercontent/sitebuilderfiles/lipstickonapig2007.pdf) calls "strategic design"

By Michael Macedonia IEEE Computer Editorial Board

Steve Jobs is just as much the designer, defining the values, creating the environment for Jon [lves] and his team to deliver, and using design strategically to design not just great products but a complete service experience-design across every touchpoint.

Revenue Generator

The rationale for Apple to create the iPhone is that the financial impact for the company, its supply chain partners, and consumers could be huge. Steve Jobs said at Mac-world this January: "We've had some real revolutionary products. The Mac in 84, the iPod in 2001, and we're gonna do it again with the iPhone in 2007. Exactly what we're trying to do, 1 percent market share in 2008, 10 million units and we'll go from there." That's more than \$5 billion in revenues for the mobile phone-cameraiPod combination. The initial cost of the iPhone follows iPod's stair-step pricing model (www.roughlydrafted.com/RD/RDM. Tech.Q1.07/4DD0941D-9097-4FAE -A3BB-29DA5CA07199.html), as Table 1 shows.

Table 1. Apple's iPod stair-step pricing model.

iPod Model	Price	Description
Shuffle	\$79	Ultra Small and Simple
Nano	\$149-\$249	Very Small and Thin
5G iPod	\$249-\$349	Hard-drive based, with large capacity
iPhone	\$499-\$599	Phone and Internet Features

Services, excluding iTunes purchases, will take the bigger chunk. AT&T, the mobilephone service provider, will likely charge between \$75 and \$100 permonth for a two-year plan. This will provide the cellphone giant with revenues of up to \$2,400

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per phone and could raise the total cost of an iPhone to well above \$3,000 over two years.

Purchasers will thus need to be fairly affluent to afford such a device-a market that Apple clearly desires. Moreover, those affluent buyers will generate new revenue from music, video, and movie downloads.

Coolness for the Win

Version 1.0 of a product is always a market test, albeit an expensive one. In the iPhone's case, the real target date is 2009, when the second version will come out and the first set of two-year service agreements with AT&T will expire. By that time, AT&T will finally have fully deployed 3G phone service in the US. Apple will then also have its production geared up to start selling different models Conclusion for different market segments.

Apple also plans to release new features for free during the two-year agreement cycle. This will give it the opportunity to test-market services—in a sense, echoing Google's beta/new-feature approach for its Web applications.

The breadth and depth of Apple's dominance in the online media market is stun-

ning. Consumers have made more than 2 billion downloads from its iTunes store since it debuted in 2003. The store now has more than 5 million songs, 350 TV shows, and 500 movies in its catalog. iTunes holds 85 percent of the market share of legal downloads and represents a major revenue growth area for Apple. The 10 million iPhones will soon join the more than 100 million iPods Apple has already sold.

The iPhone faces some of the same criticism as the early iPod did in the MP3 market-too expensive given a market full of similarly capable but pedestrian music players. Yet the world continues to buy iPods more than any other MP3 player because they offer something others can't: a bite of Apple's cool factor, generated by the company's great design and a fabulous user experience.

The iPhone promises to build on Apple's coolness legacy. Moreover, it could quickly become known as the elite experience in a world that already has 10 billion mobile phones. Apple's initial 10 million iPhones will represent barely a tenth of one percent of the world's cell phone market. Early adopters will thus be special, members of the tech elite.

If the iPhone meets expectations, it could create a new, unpredictable dynamic in the mobile phone market-place. Already, for example, Sprint reduced the cost of its music downloads in March from \$2.50 a song to 99 cents.

Returning to the comet analogy, the iPhone could have as much of a disruptive effect on the existing cell phone market as the dinosaur-killing comet's impact did 65 million years ago. Or, as with the Apple II in 1977, it could be the beginning of a new age for devices we haven't named yet.

MacTown

ongratulations to **Jason** Lewantowicz who opened his new Apple store front called MacTown. The store opened on June 23rd and they are ready for you to come by. MacTown is located at 8975 Kingsridge Dr. Dayton, OH 45458 behind the Dayton Mall.

This Month in Computer History

his month in Computer History is An exhibit at the Computer History Museum, http://www.computerhistory. org/tdih/index.php Some of the important dates for the month of July that you can look up on the site are:

August 1, 1967—US Navy recalls Grace Hopper to head COBOL effort

August 2, 1902—Computer pioneer Mina Rees is born

August 3, 1977—Radio Shack announces TRS-80 computer

August 4, 1988—Computer shuts down Space Shuttle

August 5, 1975—Mira-Pak Settles Suit Against IBM

August 6, 1997-Microsoft buys \$150M of Apple stock

August 7, 1944—IBM presents ASCC Giant Brain to Harvard

August 8, 1995-Netscape Communications goes public

August 9, 1927—Computer pioneer Marvin Minsky is born August 10, 1911—Computer inventor Rajchman is bom August 11, 1950—Apple inventor Wozniak August 22, 1955—The first computer User is born August 12, 1981—IBM introduces its Personal Computer August 13, 1973—ICCP is Founded August 14, 1940—Atanasoff finishes pa-

per describing the Atanasoff Berry Computer

August 15, 1994—Programmer Suggests Bundling Internet Explorer in Windows 95 August 16, 1890—Census Bureau announces results using Herman Hollerith's

machine August 17, 1950—NBS dedicates SWAC

machine

August 18, 1947—Hewlett-Packard is incorporated

August 19, 1934—Computer pioneer Bell is born

August 20, 1995—NY Times article on

need to preserve obsolete hardware and software

August 21, 1888—Burroughs Receives Patent for Calculating Machine

Group is founded

August 23, 1993—Nintendo Agrees to Use Silicon Graphics Technology

August 24, 1995—Microsoft ships Windows 95

August 25, 1996—Nets cape Creates Navio to Compete with Microsoft August 26, 1984-Miss Manners addresses computer correspondence August 27, 1993—Compaq Introduces Presario

August 28, 1991—First E-mail From Space Is Sent Today.

August 29, 1990—The British Computer Misuse Act goes into effect

August 30, 1907—Computer pioneers Mauchly and Brown are bom

August 31, 1994-Aldus and Adobe Systems Finalize Merger

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Page 16

The New, the Best, and the Worst

Digital Camera Lessons

y first digital camera was a 3.1 megapixel Olympus C-730 Ultra Zoom. With its 10x optical zoom lens I hoped to take candid pictures of squirrels feeding at the corn spike on the back fence. To my disappointment they turned out on the fuzzy side. I blamed the optics, until it was pointed out to me that a handheld camera is too unsteady at that zoom level.

Lesson #1: It takes a tripod for best results at elevated zoom levels.

Indoor pictures, especially those I took at our monthly meetings, were never as bright and sharp as some of those taken by others, even after processing with a photo editor. The pictures were underexposed due to the inadequate flash and small lens diameter. To compensate, the camera used a large aperture (affecting sharpness) and amplified the signal from the CCD as much as possible (to an equivalent of ISO 400 maximum in this camera). Amplifying the signal also amplified the electronic noise inherent in all electronic systems, resulting in a mottled background. The camera minimized the mottling by blurring the image.

Lesson #2: Higher ISO specifications are meaningless unless the CCD chip has a higher signal-to-noise ratio. Otherwise it takes a stronger (external) flash, and/or a larger lens for better light gathering. If you already have an old SLR film camera with several large lenses you may be better off with a new SLR camera body that accepts your lenses. More expensive and bulky, but it will get the best results.

Digital pictures don't always turn out as intended. Taking a picture of a roomful of people may end up with people in the back old, seldom-used, set of Encyclopedia Briof the room barely visible while the ones up front are overexposed. Often a part of the picture can be rescued by severely cropping to retain the group in the foreground only. Unless you start out with a large excess of pixels, the remaining edited version may not have enough pixels left for a sharp image of reasonable size, resulting in blurriness or even pixelation. 7 megapixel images can be cropped smaller than 3 megapixel ones.

Lesson #3: Get as many pixels as you can afford. You can always discard the excess later.

My next camera was a Casio EXZ-750 with 7.2 megapixels and no more than 3x optical zoom. I already knew that higher zoom levels gave unsatisfactory results. Much more compact than the Olympus, with a large LCD screen and an optical viewfinder for bright outdoor use. According to the PC magazines it provided outstanding image quality. I did see a comment somewhere that its low-light performance was marginal and I should have paid heed to that. As it turned out, the camera performed beautifully under daylight conditions, but flash pictures taken in semi-dark rooms invariably showed the multicolored mottling due to background electronic noise in the chip. I have not found a photo editor (yet?) that corrects that problem, other than by blurring the picture to make the mottling less visible.

On the other hand, with the higher pixel count I took a daylight picture of a squirrel on the back fence from the kitchen door with 3x zoom and cropped it back tightly without losing quality. One night I surprised a raccoon raiding the bird feeders. It may have been a youngster, at least it did not show any fear and allowed me to walk right up to it and snap some flash pictures. Under these close-up conditions, with plenty of light from the flash, the pictures were sharp without mottling of the dark background. Still, the new camera did not solve my problem with the unsatisfactory performance in open areas under low light conditions.

Lately many camera manufacturers have started to emphasize higher light sensitivity of their cameras in terms of ISO values. Both my Olympus and the Casio had a maximum of ISO 400 speed. I took some trial pictures with both my cameras, changing the ISO setting from 100 to the maximum 400. As a target I used my 40-year tannicas, in dark-brown imitation-leather bindings and gold lettering on the spines. Sitting in their own bookcase in a dark corner of the den they make a perfect test image. It only confirmed lesson 2: higher ISO settings by themselves don't help. They just amplify the noise as much as the signal.

And then I read about the new Olympus SP-550 UZ camera. All-new technology! 18X optical zoom! Includes wide-angle! New Dual Sensor-Shift and Digital Image Stabilization! Up to ISO 5000 sensitivity (with reduced image size) and up to 1/2000 second shutter speed! I liked my old Olympus and this seemed to be everything I needed to solve my problems. I was

Collected by Pim Borman SW Indiana PC Users Group, Inc

ready to order but hesitated at the last moment. It sounded almost too good to be true, and frequently that turns out to be true.

Lesson 4: First find out all you can about a new camera from an independent source

PC World and PC Magazine were no help, since the camera had only recently become available. I found a terrific Web site, Digital Photography (www.dpreview.com) with in-depth reviews of just about any digital camera on the market. More detail than you knew existed, sure to uncover any shortcomings. Its summary opinion of the Olympus SP-550 UZ was deadly. In essence: a camera designed by the marketing department, out to establish the best-looking list of specifications without regard to actual performance. A detailed series of test images showed how the performance of the camera rapidly degraded with increasing ISO values, even well below ISO 1000, let alone 5000. The dual image stabilization didn't work well at the high zoom levels where it is most needed. Even under the best conditions, images were not as sharp as with competing cameras.

Lesson 5: Image stabilization may not work as well as promised, especially at high zoom levels when it is most needed.

Having found dpreview to be a goldmine of information about cameras, I checked to see which make and model they liked best, especially under low-light conditions. Their clear choice was the Fujifilm FinePix F31fd camera, a minor upgrade of the previous F30 (http://www.dpreview.com/ reviews/fujifilmf31fd/). In many respects it looked and acted like so many other compact digital cameras, but it boasted of having a Super CCD and a new Real Photo Processor. Also, ISO 3200 maximum, 6.3 megapixels, 3x optical zoom. The review showed that, as in other cameras, the image quality at the highest ISO settings was unacceptable, but it still found that "this camera has Class-leading high ISO performance; superb results up to ISO 400, surprisingly good ISO 800 performance." This is presumably due to a higher signalto-noise ratio of its CCD chip. As a result its performance at low light levels is superior. In other respects the camera is unre-(Continued on page 17)

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markable. It lacks an optical view finder and its LCD screen is hard to see in bright light. It uses more expensive XD picture cards that have lower writing speeds than SD cards.

Lesson #6 : Digital cameras come with a minimum of built-in memory. Buy at least 512 MB of removable additional storage. SD picture cards are less expensive and faster than XD cards, but are not interchangeable. Check to see what the camera uses.

At half the (street) price of the new

Olympus, I bought the Fujifilm camera. Test pictures of my encyclopedia confirmed its superior low-light performance. That is also clear in the first indoor ture is still worth at least a thousand group pictures I have taken with it. For outside pictures I still prefer the Casio, mostly because of its convenient optical view finder.

Lesson #7: An optical or miniature LCD viewfinder is essential for accurately framing pictures under bright conditions.

Finally, if you are a stickler for perfection and the Southwestern Indiana PC Users get a digital SLR camera with a set of high-quality lenses. You'll never be sat-

is fied with the small pocket cameras. But even with less than absolutely perfect technical quality, an interesting picwords!

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Perl Mongers Strike it Rich!



Attend a SIG this month

Get ready for Matt and Bill!

M att Hester and Bill Steele from Microsoft will be our guests for the general meeting in August. They will be here for another Microsoft Tech Day. DMA® members that attended the last one noticed that the next Tech Day will be the same day as our August General meeting. Quick thinking and we have Matt and Bill on the schedule.

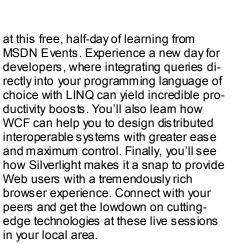
Matt and Bill have spent time with us many times and its always fun and informative. In fact, Matt and Bill are so smooth they could take their act to one of the local comedy clubs. But we have them here ready to answer your questions about Microsoft products.

If you were thinking that they were just here, you are right. See Microsoft finally saw the light. They are going to alternate events between Dayton and Cincinnati. So Dayton will get the August-September show. Cincinnati will be graced in October, November, December. Then back to Dayton in the first quarter of 2008. This is good news. The events in Dayton and Cincinnati are drawing from the same population pool.

So what's up for Microsoft Tech day in August? Well.....

Bill Steele will present the TechNet event on Windows Server 2008. Windows Vista. Forefront, and System Center. Learn how to save the day with hot new solutions from TechNet Events. Join us for these free sessions and transform your IT environment into a secure and well-managed infrastructure with Microsoft Forefront and Microsoft System Center. You'll get the inside scoop on Essentials 2007 - a unified management solution that enables IT pros to run a mid-size business environment with greater confidence and efficiency. We'll also cover the benefits of the new TCP/IP protocol suite and how to tune TCP/IP for top performance. Finally, we'll explore the next generation of networking features in Microsoft Windows Server 2008 and Windows Vista that boost performance, scalability and manageability.

Matt Hester will be presenting the MSDN event. Connect with like-minded coders



Microsoft will also be presenting Connections and their TS2 Microsoft Partners events. These are more business oriented. Take a walk down memory lane as we trace the evolution of Microsoft® Windows® and Office products as they've grown to meet the needs of small business owners. We'll discuss how the new Windows Vista[™] and 2007 Microsoft Office system will continue to support that growth. Learn the different aspects of small business server solutions, and how Windows Small Business Server 2003 can increase your business efficiencies. We'll also focus on Windows Mobile + Exchange Server Experience and Microsoft Dynamics,™ and discuss how these

products can help your business to evolve and grow with your customer needs.

At the TS2 Event, we'll discuss how you can build a business model that supports your customers' business goals after you've made the initial sale. You'll learn about the revenue opportunities in Managed Services and the support tools Microsoft has to offer. We'll cover:

• Increasing your revenue opportunities with Managed Services offerings that include System Center Essentials 2007, Forefront Client Security, and Exchange Hosted Services.

• Building a reoccurring revenue model around security management with Microsoft Baseline Security Analyzer, Microsoft Software Inventory Analyzer, and Windows Server Update Services.

• Engaging new prospects with Microsoft programs like Windows Genuine Advantage, Competitive Sales Assistance, and the Ready to Go Campaigns.

So go to http://www.technetevents.com/ and sign up for the FREE Microsoft events and spend the day with Matt and Bill. Then join us in the evening at our general meeting for more information and the answers to your questions

SEE YOU AUGUST 28th.

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Join us August 28th at 7:00 pm

DMA® Membership has its Benefits

A yearly membership in the Dayton Microcomputer Association, Inc. (DMA) is twenty-five dollars. Just about two dollars a month. Yet many people do not invest in membership. We do not require you to be members to attend our SIG meetings and the monthly General meeting. So why should you fork over twenty-five dollars?

Your first benefit is a year's subscription to the Databus. Because of our connections through the Association of PC Users Groups (APCUG), we have access to articles written by user group members from all over the country. The interests represented are wide and varied. It is also an opportunity to read about the activities of our SIGs and projects.

DMA has a Linux web server (DMAPUB), which is maintained by volunteers. Here our volunteers get experience managing e-mail and web sites. As a member, for a one-time setup fee of ten dollars, you can have a command line access to DMAPUB. So how is that a benefit? Well, for one thing the email accounts have POP3, IMAP and Web access. You can have one e-mail account for the rest of your life. When you change your ISP, there is no need to change your email. You can also check your e-mail from any web-connected computer worldwide. Want to set up a web page but don't know how? Here is your practice space. DMAPUB is accessible by ssh using Filezilla and all you have to do is upload those web pages. Want to make it data driven? We have MySQL database installed as well as PHP and Perl. And the biggest benefit of all, NO ADDS on your web page. This would cost between \$4 and \$10 a month at a commercial provider

Another benefit is access to the many mailing lists, which are maintained by our volunteer sys-admins. Every SIG has a mailing list and we even sponsor some just for interests. So check out a mailing list.

The next benefit is our "clubhouse". We rented the 119 Valley Street facility primarily to house the Ohio Technology Access Project. As a side benefit, we have a meeting area set up as well as three computers with big screen monitors. All three are dual boot Windows/Linux systems. Three flavors of Windows are represented Windows 98SE, Windows 2000 Professional and Windows XP. In addition, a variety of software has been installed on these systems. The systems are connected to high speed internet as well as three laser printers, two black and white and one color. We also have scanners and have recently installed a photo printer that will print directly from memory cards. Just bring your own paper and print awav.

Just for our members, Mike Carr, has set up Tech-Saturday once a month. Bring your machine to 119 Valley and Mike and the OTAP gang will take a look at it and use the OTAP resources to help you figure out the problems.

Those are just some of the benefits our club provides you directly, however, as a DMA member you are entitled to some additional benefits.

O'Reilly publishers, who produce technical publications, has a user group program. Through this program as a member of the DMA, you are entitled to a 35% discount on O'Reilly products.

A new offer is just being set to us by AP-CUG. Tiger Direct, through its parent company Global Computer, is offering all AP-CUG member user groups discount pricing By Nancy J. Christolear Editor, Databus

on all products they carry (and that is a lot). This program will provide similar discounts that vendors normally provide their corporate accounts. All products include everything on their web site, in their catalogs, and special orders. Most items will have a varied % off but all items will be lower than advertised. In other words software, hardware, peripherals, printers, servers, all may have a slightly different discount rate as do brands such as HP, EPSON, LENOVO, IBM, etc. This discount includes all major brands, including their own Global and Tiger Direct Systemax custom computers as well as printer ink and toners, peripherals of all kinds, and media.

Probably the number one benefit of membership is the chance to participate. You may enjoy attending SIG and General meetings, but to truly participate and direct the group you must be a member. Members can run for the board of trustees and determine the future of the club. Only members will be funded to participate in conferences such as APCUG has at the same time as the Consumer Electronics show in January.

One last benefit, only members can participate in the prize drawing during the monthly meeting.

That's a lot of benefit. And I'll bet it won't take you long to make back that twenty-five dollars in savings. If you are reading this article in a Databus that was mailed to your home, then you are a member of the DMA and we thank you. If you're membership is coming up for renewal, simply fill out the form in the back of this publication and send it in. We'll see you at the next general meeting.



Nancy Christolear was selected as DMA® volunteer of the month for August. Nancy serves as Databus editor as well as SIG leader for the Digital Photography SIG. She also pitches in wherever necessary with the Gaming SIG, Dayton LANfest, Linux SIG and even gives presentations at our General Meeting.

Thank you Nancy for all you do.

About to Expire Memberships

If you have recently paid your dues, thank you very much. Your name may still appear here because of the time it takes to publish our newsletter.

Expired in June,

Lake, Sherry H. McGhee, Tom Myers, Robert P. Rhodes, James C. (Dusty) Wert, Robert E. Woodard, Dan

Will expire in July,

Collins, Todd Day, Leah A. Lake, Elliott Landaburu, A. Carlos Phelps, Kenneth E. Snyder, Tony Wire, Keith

Will expire in August,

Blakesly, Michael Campion, Kimberly Collins, Shawna Finley, Jay Fortenbaugh, Jonathan Groth. Rick Kannik, Kathleen Lauderbach, Dave McDaniel, Kenneth Mullins, C. Fred O'Quinn, Nicole R. Reibert, Gary Roth, Thomas Singerman, Keith Taylor, Billie van Alden, Jon



David Shrewsbury Norman R. (Norm) Weiland Jeremiah Ilges Dean Schrickel P.E.

DMA[®] Board Minutes - May 7, 2007

Call to Order and Attendance

Vice President Gary Turner called the meeting to order at 7:04 P.M. All Trustees were present, except for Jim Bellan: Martin Arbagi, Glady Campion, Todd Collins, Chuck Gelm, John Hargreaves, Dan Tasch, Jim Ullom, and Ron Williamitis. Officers present: Gary Turner. Visitors: Mike Carr, Nancy Christolear, John Daniel, Jim Hendrix, Ed Jones, Elliott Lake, Dave Lundy. (Alphabetical order used throughout.)

Officers' Reports

PRESIDENT (Vacant)

VICE-PRESIDENT (Gary TURNER) Feedback has been good on the new Huber Heights venue for the General Membership Meeting. Handicapped members especially appreciate the fact that the meet- OTAP (Mike Carr) ing room is on the ground floor and close to OTAP has been recently "on a roll," and the parking lot. It is also close to a bus stop.

TREASURER (CHUCK GELM) Chuck passed out the financial report for the month.

Our rent was \$600 for this month, but the new landlord says this might be "adjusted" in the future.

We have just filed our Ohio Workmen's Compensation and state and federal withholding tax.

SECRETARY (Martin ARBAGI) Chuck Gelm moved approval of the April Minutes, with corrections. Seconded by Jim Ullom. Motion passed unanimously.

Committee Reports

Dayton LANfest-No report.

Membership (Glady Campion) Our membership stands currently at 223 Regular Members, 8 Associate Members, 4 Student Members, and 2 Life Members. 37 people attended April's General Membership Meeting.

Programs (Jim Ullom)

May's meeting will be a "show and tell" from the various Special Interest Groups (SIGs) within DMA: the Apple, Classic Computer, Gaming, Ham, and "Hands-on" SIGs.

Manufacturers' representative Dave Whittle will be in town on June 21st, and will speak to DMA one week earlier than our regular meeting date.

July's meeting will feature a presentation by Mike Schwartz, who represents Clear Wire Communications, a new broadband Internet provider coming to Dayton.

119 Valley Street (Mike Carr)

119 Valley Street now has a new landlord. The rent will remain at \$600 for this month, but will be "adjusted" thereafter, presumably upward.

took in approximately \$2100 last week. On the other hand. last month was dismal. There have been no recent deliveries of donated computers from NCR.

There is an interesting grant program from the AT&T Company that may be relevant to OTAP's work, but it may be eight months to Data Bus Editorship a year before we hear anything.

Sinclair Community College has an intern program that may help OTAP. The interns would be paid by Sinclair.

Old Business

Vacancy in President's Position DMA needs a President, but we have had no volunteers as yet. The President need not be a Trustee, but if he or she is not, then we need a separate Chairman of the Board who is a Trustee.

Hamvention(r)

An interior booth at Hamvention(r) is beyond out budget. However, an outside booth at the Flea Market only costs \$100, and we can supply our own tent in case of rain, courtesy of Peter Hess. Ron Williamitis moved, and Jim Ullom seconded, a motion to allocate \$100 for rental of a Flea Market booth at Hamvention. Passed

By Martin Arbagi, DMA Secretary

unanimously.

New Business

July Meeting

The first Monday of July is the 2nd, which is too close to July 4th. The Trustees' meeting was moved one week forward, to July 9th, by consensus. No formal motion was required.

Storage Space

Ed Jones's company, Keeran Mechanical, has been renting DMA storage space, but needs the space back by the end of this calendar year.

Projector

DMA needs a new digital projector. Martin Arbagi suggested that a committee be set up with authority to buy a new projector. Jim Ullom moved, and Martin Arbagi seconded, that a committee be constituted to purchase a projector, and authorized to spend up to limit eight hundred dollars (\$800). Passed unanimously. The committee will be made up of Dave Lundy, who is familiar with technical specifications, and Mike Carr, who will do the actual purchasing.

Nancy Christolear announced that she is willing to take charge of the The Data Bus through September, when her students return.

Volunteer of the Month

Jim Ullom proposed Gary Gainger, longtime Curator of DMA's Computer Museum and head of the Classic Computer SIG. as Volunteer of the Month. Approved by consensus. (No formal motion made or needed.)

Adjoumment

Jim Ullom moved and Ron Williamitis seconded adjournment at 8:50 P.M. Motion passed unanimously.

Respectfully Submitted,

MARTIN ARBAGI, Secretary

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DMA Board Minutes—June 4, 2007

Call to Order and Attendance

Vice President Gary Turner called the meeting to order at 7:02 p.m. Trustees present: Martin Arbagi, Jim Bellan, Glady Campion, Todd Collins, Chuck Gelm, John Hargreaves, Dan Tasch, Jim Ullom. Trustee absent: Ron Williamitis (excused). Officers present: Gary Turner. Visitors: Mike Carr, Nancy Christolear, Dave Lundy. (Alphabetical order used throughout.)

Officers' Reports

President (Vacant)

Vice-President (Gary Tumer)

No report.

Secretary (Martin Arbagi)

Martin noted that Robert's Rules of Order calls for the Secretary's report to be given before that of the Treasurer, which was not the sequence we've used for many meetings. He wished to bring our procedure back in line with regular parliamentary order. Glady Campion had also suggested a number of changes in the sequence of committee reports

Chuck Gelm moved approval of the corrected May Minutes. Seconded by Jim Ullom. Motion passed unanimously.

Treasurer (Chuck Gelm)

Chuck passed out the financial report for the month.

Our new landlord has raised the rent from \$600 to \$700.

Despite the rental increase, our assets rose because OTAP had a good month in May.

Committee Reports

Membership (Glady Campion)

Our membership stands currently at 225 Regular Members (an increase of two from last month), 8 Associate Members, 4 Student Members, and 2 Life Members.

Approximately forty people attended May's General Membership meeting.

Publications (Nancy Christolear)]

The DataBus appeared on time. This may have been a reason for the rise in attendance at May's meeting. Nancy is trying to run more photographs in each issue. She would like more articles from the membership, but also plans to enforce the deadline for submitting such articles.

Programs (Jim Ullom)

Manufacturers' representative Dave Whittle given by r will be in town on June 21st, and will speak to No report DMA one week earlier than our regular meet- the event. ing date.

July's meeting will feature a presentation by Mike Schwartz, who represents Clearwire Communications, a new broad band Internet provider coming to Dayton.

There was considerable discussion about presenters for future meetings. September's meeting will be dominated by elections for the Board of Trustees, but there will be time for a short presentation. There was also discussion as to whether or not meetings should be more technical in their content.

Audit (Vacant)

This committee, although required by the By– Laws, is currently inactive. Gary Tumer asked the Board to search for volunteers to fill the post.

Funding (Vacant)

This committee, although required by the By-Laws, is currently inactive. There was, however, some discussion about fund raising opportunities. One possibility was a raffle (for example, of an L-Pod®) at each meeting on a regular basis. Another suggestion was to rent the Computerfest® trade mark, or to sell it outright.

Nominations (Vacant)

We need to search now for nominees for the September elections. We'll have a call for candidates to run for Trustee in the next issue of The DataBus. There was some discussion about asking the various Special Interest Groups (SIGs) to canvass their members for individuals willing to run for DMA Trustee.

Special Committee Reports

OTAP and 119 Valley Street (Mike Carr)

OTAP took in \$3,680.00 in May from the used Laptops and other computers .

Thus far in June OTAP has made an additional \$165.00 from the sale of aluminum scrap.

We do not have as yet a signed lease from Mr. and Mrs. Crawford, the new owner of 119 Valley Street. Mike, and DMA Trustees Glady Campion and John Hargreaves met with the Crawfords. The Crawfords are planning to repair the roof of the building.

Wireless Dayton Days (Peter Hess absent, report given by Glady Campion)

Peter was not able to set up his display at Riverblast on Memorial Day weekend. He does plan to participate in the Celtic Festival.

DaytonLANfest (David Neely absent, report given by Nancy Christolear)

No report until we can find a new venue for the event.

Old Business

Hara Arena

We have not as yet received the agreed– upon refund check from Hara. Jim Bellan will send a letter to Hara.

New Business

Storage Space for Gaming Special Interest Group

Mike and Glady would like to locate a cabinet in the main room at 119 Valley Street to store routers, cables, etc. that are used for the miniLANs.

DMA's Linux® Special Interest Group at the Ohio Linux Fest

The Linux SIG wishes to have a booth at the statewide Linux exhibition, the Ohio Linux Fest. The SIG is raising money from its members, but is also requesting DMA to grant matching it funds for rental of the booth. Martin Arbagi moved that DMA match funds raised by the Linux SIG, dollar for dollar, up to the cost of the booth or \$100, whichever is less. Seconded by Jim Ullom. Passed unanimously.

Insurance Review

Mike Carr passed out a copy of our Insurance policy and pointed out several outdated items. Jim Ullom noted that it may be time for a comprehensive review of our insurance.

Downtown Dayton Partnership

On behalf of Trustee Ron Williamitis, Martin Arbagi passed around some proposals from the Downtown Dayton Partnership (DDP). None of the proposals were suitable. The DDP staff classified DMA as a computer repair business, misunders tood our footage requirements and did not realize that we prefer access to a loading dock for OTAP operations. Martin noted that Ron was aware of the problems, but that he felt that DDP was an underused resource in our efforts to find an alternate location to 119 Valley Street.

Volunteer of the Month

Jim Ullom proposed Dave Lundy and Mike Carr, for their time spent in finding us the very best value in a digital projector.

Good of the Order

Jim Ullom: Congratulations to Nancy Christolear for the fine job she's doing as Editor of The DataBus.

Adjournment

Several Trustees moved and several others seconded adjournment at 9:30 p.m. Motion passed unanimously.

Respectfully Submitted,

Martin Arbagi, Secretary

Volume 32 Issue 6

DMA® Membership Application/Renewal

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PLEASE ALLOW UP to THREE WEEKS FOR A	PPLICATION PROCESSING and INTERN	NET SET-UP
Name:	Birth date:	_//
		. day yr.
Associate Name:	Birth date:	_//
		o. day yr.
Address:		
City:	State: Zip:	
Phone: (Home) () Phone: (Wor	k) ()	X
I wish to have my name and address published in the club roster: YES [] NO	D[] E-mail address	
Name of DMA® member who recruited me:		_ (only new regular memberships)
Current or recent DMA® Member: Yes [] No [] Change of Address O	nly [] Today's date://	_
Membership number (from your DataBus mailing label)		
Type of Membership		
Application is for: New Membership []		
Membership Renewal [] Associate Membership* []		
If applying for free student membership, please give school name and student ID	number: Available only for students under 22	2 years old.
School Name:	Student ID#:	
* A family associate membership is an additional membership for a member of y	our immediate family that	
is living in the member's household. If this is a family associate membership, give	e name of regular member:	
Dues/Fees (Dues and Fees are subject to change without prior notice)		[] Cash
Membership (one year - New or Renewal)	1.) [] \$25	[] Check Check
Family Associate Membership (must live at same address as regular member)	2.) []\$12.50	#
Free* Student Membership	3.) [] FREE * for students under 22 yrs	of age
Please assign me a user ID for E-mail and Usenet news access	4.) [] \$10 one-time setup fee for new acc	ounts.
Total Lines $(1 \text{ and } 2)$ (+4 if checked)	5.) \$	
Make your check payable to Dayton Microcomputer As	sociation, Inc. DMA®, then send the	check and application
to:>PO Box 340402 Beavercre	ek, OH 45434-0402	

 DMA® Use only:
 Membership #_____
 Exp. Date:
 /___/
 Processed by:
 REV: 10 Jul 07

Friends of DMA

The "Friends of DMA" program is being established to facilitate direct contributions from both groups and individuals to help cover expenses and opportunities. DMA will gratefully accept any amount you or your business can afford.

All contributions made to "Friends of DMA" are tax deductible: 501(c)(3). DMA was founded on the principle of keeping membership fees as low as possible in order to allow all those wishing to join, participate, and share in the many benefits and rewards that membership provides.

In spite of decreasing sponsor donations, the expenses of DMA do continue and shortfalls must be realized from sources such as membership dues and direct contributions such as the Friends of DMA Program. Become a Friend of DMA and contribute to the support of our organization. You may contribute any amount to the General Fund or designate your contribution to a specific target need. All contributions will be acknowledged with a signed receipt certificate.

Enclosed is my (our) contribution in the amount of:

() \$25 () \$50 () \$100 () \$250 () \$500

The desired target of this donation is:

- () General Fund Allocate to most needed area within DMA
- () Hardware and On Line Services Allocate to help the DMA infrastructure
- () Administrative Dues Assistance, Administrative, Publications and supplies
- () Other:

DMA® Events for July 22 - August 25, 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Jul 22	Jul 23	Jul 24	Jul 25	Jul 26	Jul 27	Jul 28
			Hands-On SIG 6:30pm Valley	Digital Photo SIG 7:00pm 240 Allyn Hall		9am-5pm OTAP
Jul 29	Jul 30	Jul 31	Aug 1	Aug 2	Aug 3	Aug 4
		Main Meeting 7:00pm 5367 Fishburg Rd., Huber Heights	r	Genealogy SIG 7:00pm Valley	C	9am-5pm OTAP Classic Computers 3pm 7875 Kessle Frederick, Tipp Ci
Aug 5	Aug 6	Aug 7	Aug 8	Aug 9	Aug 10	Aug 11
2	Board of Trustees 7:00pm Valley	Amateur Radio SIG 7:00pm Valley	Perl Mongers 7:00pm Valley	Software Develop- ment SIG 7:00pm Valley	-	9am-5pm OTAP
Aug 12	Aug 13	Aug 14	Aug 15	Aug 16	Aug 17	Aug 18
0		Hands-On SIG 7:00pm Valley	0	Linux SIG 7:00pm Russ Engineering, WSU	8	9am-5pm OTAP Classic Computers 3pm 7875 Kessle Frederick, Tipp C
Aug 19	Aug 20	Aug 21	Aug 22	Aug 23	Aug 24	Aug 25
	Apple SIG 7:00pm Huber Heights Athletic Ct 5367 Fishburg	r,	Hands-On SIG 6:30pm Valley	Digital Photo SIG 7:00pm 240 Allyn Hall		9am-5pm OTAP

Remember: • July 31 "Clearw^ore Wireless High Speed Internet"



• Send membership applications & renewals to: PO Box 340402, Beavercreek, OH 45434-0402



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