The Databus
Newsletter of
The Dayton Microcomputer Association

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Volume IX
(New Series)
Number 5
May 2019

DMA

Post Office Box
4005
Dayton, Ohio
45401

Visit us at:

DMA1.org

ESTABLISHED IN 1976, DMA is a group of Dayton-area professionals and enthusiasts in the field of computing and digital information technology. General membership meetings are usually on the last Tuesday of each month. DMA has a number of Special Interest Groups (SIGs) in areas ranging from digital investing and genealogy to the Linux operating system. Each SIG meets according to its own schedule. DMA is a member of the Association of Personal Computer Users' Groups (APCUG) and the Affiliated Societies Council (ASC). Click on any of the logos—including our own (top left)—to go to that organization's Web site.

apcug
An International Association of Technology & Computer User Groups

AC

Submissions …

THE DATABUS welcomes compliments, complaints, suggestions, and especially articles. We can accept articles in ASCII, or as attachments in Microsoft Word or Works, Open Office Writer, Word Perfect, or, yes, even WordStar (a word-processing program that goes all the way back to about 1980!). No PDF files, please. Send articles to:

Editor@DMA1.org

All articles are subject to editing for spelling, grammar, usage, and space. Always retain a copy of your work, as THE DATABUS cannot be responsible for loss. When articles are of roughly equal quality, those by paid-up DMA members usually receive preference.

Your 2018/19 Officers:

President
Pater HESS
Vice–President
—OPEN—
Secretary
Pat FLYNN
Treasurer
Glady CAMPION
Officers need not be Trustees.

Trustees:

Martin ARBAGI
Gary COY
Glady CAMPION
Pat FLYNN
Peter HESS
Brent KERLIN
Debra MCFALL
Gary TURNER

Webmaster:

Brent KERLIN
Webmaster Emeritus:
Dave LUNDY

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THE DATABUS is written and published by volunteers. We do not give professional advice on hardware, software, or network installation, repair, security, or troubleshooting. If you need expert assistance, please seek the services of a competent professional.

MAY MEETING: *7:00 P.M., Tuesday, the 28th, at T. J. Chump's, 7050 Executive Boulevard, Huber Heights 45424 (next door to Meijer's —click here for a map). Come at 6:00 P.M. if you want to join us for dinner. There's plenty of* free *parking. (Also accessible via RTA bus routes #18 & 19, but you must take a short walk from the Meijer's supermarket.)*

Free parking—No charge—bring a friend!

May Meeting—GARY COY: *Streaming Media*

AUDIO OR VIDEO CONTENT sent in compressed form over the Internet and played immediately is considered "streaming media." Over the past 18 months, the number of streaming video services has exploded, offering consumers more choices than ever when it comes to alternatives to traditional pay TV.

The market for streaming media devices *at the moment* is dominated by just a few brands. These include Amazon, Apple, Google (Chromecast), and Roku. A few companies, such as Roku, have several models with different sets of features and specifications. The newest models now support 4K videos with high dynamic range (HDR). So, how to choose? Gary Coy has information on the latest streaming services and devices. He can walk us through the options, talk about ease of operation, and point out which ones are worth your time.

Several new offerings in streaming services include Amazon's IMDb Freedive, a compliment to Amazon Prime service. CriterionChannel.com provides classic, contemporary, and independent films. DCuniverse.com claims to be "A first of its kind digital experience". Apple TV+, Disney+, and WarnerMedia/HBO promise releases later this year.

GARY COY is a DMA Trustee, frequent presenter, and Vice President of NASAC.org in Xenia. He offers IT services through his company, "Gary's Computers." *(See advertisement on page 9.)*

Please join us on **Tuesday, 31 May, at 7:00 P.M.,** in the **Private Dining Room of T. J. Chump's Restaurant in Huber Heights.** (Click *here* for a map.) Come at 6:00 if you wish to dine with us. (Additional information on the Dayton Microcomputer Association, and its many Special Interest Groups (SIGS), is available on pages 2 and 13, and on line at …

https://www.meetup.com/Dayton-Microcomputer-Association-Meetup/events/

… TDB

Minutes are normally published almost two months late, because the Minutes for, say, the April Board meeting must be approved by the Trustees at the following month's meeting—in this case, early May. The corrected and approved April Minutes would thus usually appear in the May DATABUS (this issue), published toward the end of that month.

Time and place of the next Trustees' meeting will be announced at the General Membership Meeting on Tuesday (the 28TH). Trustees' meetings are nornally on the first Monday of each month, begin at 7:00 P.M. and are open to all DMA mambers. The Trustees sometimes meet for dinner beforehand at a nearby restaurant that will also be a anounced at Tuesday's meeting. Whether Trustees will dine out beforehand, or if it's a "bring your own sandwich or fast food" meeting, will also be announced. Those wishing to dine with the Trustees should come at 6:00.

MINUTES

DMA Board of Trustees — Meeting of Monday, April 1, 2019

CALL TO ORDER

The meeting was called to order at 7:02 P.M. by Peter Hess.

Trustees present: Martin Arbagi, Glady Campion, Gary Coy, Pat Flynn, Peter Hess, Debra McFall, Gary Turner. Resigned: Pat Craig. Absent: Brent Kerlin. Guests: Mark Camden, Lillian Rudolph.

OFFICERS' REPORTS

President – Peter Hess

Pat Craig sent his resignation. His additional teaching assignments prevent him from fully participating in DMA. He resigned as Trustee, Vice-President, and leader of the Scientific SIG.

Peter is talking to Fifth/Third about fund raising opportunities.

Vice President – *Open!!*

No report.

Secretary – Glady Campion

Glady presented the Minutes for the previous board meeting. Debra McFall moved the Minutes be accepted as corrected. Gary Turner seconded and the motion passed with Gary Coy and Glady Campion abstaining.

Treasurer – Pat Flynn

Dayton Diode sent a $400 payment toward their insurance.

Pat presented the Treasurer's report:

COMMITTEE REPORTS

Audit – Glady Campion

In progress

Fund Raising – Peter Hess

In progress

ACCOUNT BALANCES:

Fifth Third Checking	$7,003.16
Fifth Third Savings	11,247.85
Pay Pal	35.16
TIAA CD	5,236.16
Wright-Patterson Credit Union Savings ("Share")	5.00
WPCU Checking	1000.12
WPCU Money Market	4,012.29
Dayton Foundation	+82,922.36
Total	**$111,462.10**

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(MINUTES—Continued from page 4)

Marketing – Ed Skuya, Gary Coy, Pat Flynn, Peter Hess, Patrick Craig

Peter talked more about cross-training our trustees to help with each other's tasks.

Membership – Glady Campion

As of last month's General Membership meeting, we had fifty Regular, three Associate, no Student, and five Life members for a total of fifty eight. January attendance was twenty four and the 50/50 raffle brought in $10.

Net Administration Team – Ken Phelps, Gary Turner, Pat Flynn, Brent Kerlin

No problems to report.

Mark Camden expressed some concern about the DMA1.org Web site, the scribes, their posts, and associated vulnerabilities.

Pat Flynn has been looking into purchasing a digital phone and new phone number for DMA.

Programs – *OPEN!* We must find a Programs chairman!!

April – Debra McFall, Ken Phelps, and Gary Turner will all present on "How to Avoid Being Hacked"

Other suggested topics: Streaming video, Car hacking, Chromebooks, Bitcoin and Block chain, InitiativeQ.com, Internet Architecture; Smart Home technologies

Publications – Martin Arbagi

THE DATABUS has been posted.

UNFINISHED BUSINESS

Wright State Archives – Martin Arbagi, Glady Campion

Still in progress.

Next Board Meeting

The next Board Meeting will be 7:00 P.M. on Monday, May 6, 2019 at Fairborn Fire Station #2, 2200 Commerce Center, Fairborn. Those who want to join us for dinner should meet between 6:00 and 6:30 P.M. at the Fire Station. Bring your own sandwich or fast food.

Fairborn Fire Station #2 has been reserved through December 2019.

Summer Picnic – Martin Arbagi

Martin reserved shelter #3 at Indian Riffle Park for Saturday, August 17.

Community Service

In progress

Holiday Dinner – Glady Campion

Final report is in progress.

Linux Installfest – Gary Turner

Gary and a few others will take a tour of Sinclair's new Clyo Road facility. They will ask about using Clyo Road for an Installfest, possibly June 1st, and also for future meetings and events.

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(MINUTES—Continued from page 5)

NEW BUSINESS

DMA Projector – Gary Turner

The DMA projector has been cared for by Gary Turner, though no one has used it in several years. Gary Coy moved the projector be put up for silent auction at the next DMA General Membership meeting; Debra McFall seconded and the motion passed.

ADJOURNMENT

Gary Coy moved to adjourn at 8:56 P.M. Debra McFall seconded and the motion passed.

Respectfully Submitted,

Glady Campion, Secretary

Help DMA by using Amazon's "Smile" program!

AMAZON, the Internet's largest retailer (if you haven't noticed, Amazon isn't just for books any more!) has a "Smile" feature whereby Amazon donates a percentage of almost any purchase you make to a selected nonprofit organization. There is *no* extra cost to you. Click here to learn more or here to go directly to the sign-up page. Be sure to put DMA down as the beneficiary of your purchases.

—Nooz from APCUG—

—Important News From Microsoft—

JOHN KENNEDY, APCUG REGIONAL ADVISOR FOR THIS DISTRICT, has sent the following announcement from Microsoft:

"Just to let everyone know that yesterday (Tuesday, the 21st) the announcement was made that the Windows 10 — 1903 update was being pushed out to everyone. I ran my 'Check for Updates' last night all I saw were a few more upgrades for 1809. But when I tried it this morning, I first had to do a Defender update and then the option for downloading/installing 1903 was offered.

"The update (which I insist is actually an upgrade) will automatically be *downloaded* to your computer, but unlike the 'new feature major updates' of the past, you will have the option not to *install* it. If you choose not to do the update, your computer's 1809 version will continue to receive security updates and fixes, but not the new features that come with 1903.

"If you don't want to wait, you can go to Settings/Updates and Security and click on 'Check for Updates.' As I mentioned, last evening I had at least three other 1809 cumulative updates to do along with at least one Defender update. There was no '1903' option. But this morning after doing another Defender update, I got the option to download and install 1903.

"It took a few hours for my laptop to complete the process, so make sure your laptop is plugged into an electrical outlet, as sometimes an update won't execute if the installation program

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(MICROSOFT WINDOWS UPGRADE—Continued from page 7)

senses that you are running on battery power.

"Please share this with your club's membership. I was surprised that I was able to get the update/upgrade the morning after the announcement. I was expecting it to take a few weeks or more."

... John

[EDITOR'S NOTE: Mr. Kennedy's message was sent in haste, and has been lightly edited for grammar and readability. I myself checked for the update by clicking on the START button (lower left corner of your monitor screen), then clicking on the gear-shaped SETTINGS icon and finally, typing "check for updates" in the search box. Sure enough, the "1903" upgrade/update was available. Since this was about 10:15 P.M., I began the installation process and went to bed. My PC was ready for work next morning by 7:30 A.M.] **... TDB**

FLASH!: Flaws have been discovered in this upgrade. Click on the following:
https://www.komando.com/happening-now/568729/flaws-found-in-windows-10-patch-protect-your-files?utm_medium=nl&utm_source=notd&utm_content=2019-05-24

Figure 1: The START Button

Figure 2: The SETTINGS Button

32-bits, 64-bits — How many do I need?

By Phil SORRENTINO, Contributing Writer, The Computer Club, FL
January 2019
www.scccomputerclub.org
Philsorr (at) yahoo.com

OVER THE PAST FEW YEARS, Personal Computers have been moving from 32-bit Central Processor Units (CPU) to 64-bit CPUs. (Actually, 64-bit CPUs were first introduced 'way back in 2003, but it takes time to get new CPUs through the design/manufacture/produce cycle finally to provide "affordable" products.) So it's not a matter of how many you need, it is a matter of what is on the market. From a user's point of view, the main difference between 32-bit and 64-bit CPUs is *performance.* Performance is basically the speed at which the CPU can complete tasks and is measured in calculations per second: the faster the CPU, the higher the performance. Additionally, 64-bit CPUs can come in dual, quad and eight core versions, which can provide further improvements in performance. Another difference is the

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Have a business card? Are you a DMA member?

ANY PAID–UP MEMBER of the Dayton Microcomputer Association is entitled to a *free* business card–sized advertisement in THE DATABUS. Send a good–quality image to Editor@DMA1.org, or give your business card to **Martin Arbagi,** the Editor, at any DMA meeting. We can embed a link to your Web site (if you have one) in the image of your card. Under weird IRS regulations, your Web site may not include discount coupons for DMA members, although discount offers may be included in the advertisement *itself.* See the example just above, which includes a member discount. But the advertiser (Steve Davis) could not have put that discount on his Web site.

(32 vs. 64 Bit—Continued from page 8)

maximum amount of Random Access Memory (RAM) that can be accessed. 32-bit CPUs can access a maximum of 4 GB, whereas a 64-bit CPU can access far beyond 4 GB, which is necessary if you are using software to accomplish things like video editing or graphic design. In general, the more bits you have, the better the processing performance and capability, and therefore the better your computing experience.

The CPU defines the architecture. A 64-bit CPU is used in a 64-bit architecture and a 32-bit CPU is used in a 32-bit architecture. Today, almost all PCs are built around the 64-bit architecture, giving you the best possible computing experience if you only consider the number of bits. (Other contributing factors to your computing experience might be Internet connection speed, display size, hard drive size, and the number and speed of USB ports.) The Operating System (OS) software is intimately connected to the hardware architecture. That said, keep in mind that a computer with a 64-bit architecture can have a 64-bit OS or 32-bit OS installed; however, the 64-bit architecture with a 32-bit OS installed will not provide the 64-bit architecture's full capability. Also note that the 32-bit architecture can only run a 32-bit OS. Windows 10 is built for the 64-bit architecture as was Windows 7, unlike Windows XP and 95 which were built for the 32-bit architecture.

A quick look in the rear-view mirror shows the original PC that was released in 1981 by IBM. This early PC was built around a 16-bit architecture which was quite a bit less capable then our current 64-bit or 32-bit CPUs. The initial CPU was an Intel 8088 which actually used 16 bits internally, but had an 8-bit Input/Output (I/O) interface (possibly to keep costs down and possibly to interface to certain peripheral devices), making it a hybrid of sorts, 16 bits *internally* for calculations and 8 bits *externally* for I/O. PCs that followed used the 8086 CPU which was a true 16-bit processor. 32-bit computers started to appear as early as 1985 with the Intel 386 CPU. Improvements in the 32-bit architecture continued from the mid-1980s until the 64-bit processor arrived in 2003. The 64-bit architecture has been improved over the past 15 years and the cost has been reduced to the point where almost every PC produced today has a 64-bit CPU in it. If you are looking for a new computer, definitely go for the 64-bit architecture. (You can find the architecture and OS information in Settings/System/About. In this window, "System type" will show the number of bits for the processor, and also the number of bits for the OS.)

The number of bits in a particular PC architecture indicates the number of bits used in calculations and the number of bits used to address an item in memory. So, a 64-bit architecture has a 64-bit Arithmetic/Logical Unit at the heart of the CPU and can address up to 2^64 or 16 exabytes in memory. (Note, not all PCs are built to take advantage of this large memory space, in fact most are limited by their hardware design to less than 512 Gigabytes.) An Exabyte is a very large number: a million-million Terabytes. To put it in perspective, see the following table *(page 11):*

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(32 vs. 64 Bit—Continued from page 10)

1024 Gigabytes=	**1 Terabyte**
1024 Terabytes=	1 Petabyte
1024 Petabytes=	1 Exabyte

On top of the hardware limitation, which is not really very limiting, the Operating System in use places some limitations. The following table shows the limitations for some of the popular versions of Windows 10:

Operating System	Maximum Memory (RAM)
Windows 10 Home 64-Bit	128GB
Windows 10 Pro 32-Bit	4GB
Windows 10 Pro 64-Bit	512GB

So, considering the number of items or bytes that we currently concern ourselves with, 4 to 32 gigabytes of RAM memory, and maybe 4 to 12 terabytes of hard drive space, the 64-bit architecture will probably take us pretty far into the future.

If one were purchasing a new computer, the best situation would be a 64-bit hardware architecture with a 64-bit OS and all 64-bit drivers. You would probably get this if you bought a middle to high end PC from a popular company like HP, Dell, or Lenovo. Low end or economy models might have a 32-bit or a 64-bit architecture. Note that if the amount of installed memory was over 4 GB then it would have to be a 64-bit architecture. If one did purchase a PC with a 32-bit architecture it would probably have a 32-bit OS installed. Knowing what OS is installed on your PC is important if you are installing new software. If your new software is built for a 64-bit OS, it will only run on a 64-bit OS; it will probably not run on a 32-bit OS. If your new software is built for a 32-bit OS then it will probably run on a 32-bit OS or a 64-bit OS. Sometimes a software vendor will make two versions available, one for the 32-bit OS and a different one for the 64-bit OS. So, if you can find it in your price range, a 64-bit architecture with a 64-bit OS and 12 GB of RAM and a 1TB hard drive would probably satisfy almost everyone's needs, except maybe for a few very serious gamers. **... TDB**

Nominations for

The Board of Trustees

are now open ... consider volunteering!

Join me and the other MAD SCIENTISTS from DMA for a "picnic" in Indian Riffle Park. We'll eat geeks, haha!

2019 DMA Annual Picnic at Indian Riffle Park in Kettering: Saturday, August 17TH, Noon … ??
(Food served at 1 P.M.) Tickets on sale in June, $5—cheap! Door Prizes for all!
Please, No alcohol, pets, or glass bottles.

About The Dayton Microcomputer Association, Inc. (DMA)

JUST OVER FORTY YEARS AGO, a small group of local computer enthusiasts gathered around a kitchen table looking at, and playing with, a first-generation personal computer called the Altair 8800 that one of them had bought. This computer had been featured earlier on the cover of the January 1975 issue of *Popular Electronics* magazine. Paul Allen had showed the article about the Altair to Bill Gates, and later, they wrote software together for that computer. Still later—and still together—they founded the Microsoft Corporation.

Shortly thereafter, those local computer enthusiasts joined together with many other like-minded, curious individuals to form the Dayton Microcomputer Association (DMA), now one of the oldest continuously-operating computer user groups in the world. Typically, computer user groups, and the newer iteration, technology user groups, are volunteer-run operations. The DMA is an all-volunteer led, organized and run 501c(3) non-profit organization.

There are hundreds of computer (or technology) user groups in the world—all of which continue to foster improved communication between technological equipment and software manufacturers and publishers, and users of those products. Users' groups (both computer and technology) also provide an environment where more astute technology users introduce additional and advanced techniques to those who are less informed about technology. In 2016, the DMA membership celebrated the organization's 40th anniversary of providing these services.

The DMA offers both monthly meetings, which cover new and innovative topics including a wide range of generic, technological topics, and its Special Interest Groups (SIGs) which address concerns about specific technology interests. There are ten different SIGs sponsored by the DMA, covering such topics as the Linux operating system, various programming languages such as Python, and digital aids to investing. SIG members need not also be members of the parent organization, though they are encouraged to join.

For nearly twenty-five years, years, the Dayton Microcomputer Association, Inc. held Computerfest as its major fund raiser. It became the major trade show in the Midwest. In addition, the DMA sponsored the Ohio Technology Access Project (OTAP) which distributed more than 6,000 donated, recycled, updated and sometimes customized computers to people with special challenges and needs—mostly individuals in Montgomery County and its surrounding counties—but also to persons as far away as Nigeria and the Ukraine.

Annual dues for DMA membership are $25 for regular members, and $12.50 for Associate Members (someone living at living at the same address as a regular member). Nonvoting Student Memberships are *free* to anyone through age 22. General Meeting door prizes, and both product and service discounts are available to all DMA members. **... TDB**

Dayton Microcomputer Association Membership Form

Today's date _____/_____/_____

[ ] ***NEW*** Please credit the DMA member who recruited me: _____

[ ] ***RENEW*** Contact information below is new [ ] Y [ ] N

TYPE OF MEMBERSHIP

[ ] ***REGULAR***

Name _____ Home / Work (_____) _____-_____

Email _____ Mobile Phone (_____) _____-_____

[ ] ***ASSOCIATE*** Family Associate membership is for a family member living at the same address as a Regular member. Name of Regular member: _____

Name _____ Home / Work (_____) _____-_____

Email _____ Mobile Phone (_____) _____-_____

[ ] ***STUDENT*** Free Student membership is available to those under 22 years of age, enrolled full-time in a program of higher education. Name of School: _____

Name _____ Home / Work (_____) _____-_____

Email _____ Mobile Phone (_____) _____-_____

Home Address _____

City _____ State _____ Zip _____

INTERCHANGE

Skills & interests you might share with DMA _____

What you hope DMA will provide _____

[ ] ***SHELL ACCOUNT*** A shell account on the DMA web server provides file storage, hosting of a personal non-commercial website, @dma1.org email alias (forwarding address), all for a one-time fee of $10. A username must be 8 alpha characters. The usual default is last name and first initial, no caps or punctuation. DMA reserves the right of final decision on all usernames: 1st choice _____ 2nd choice _____

DUES AND FEES

Regular membership	$25.00 x [ ] 1yr [ ] 2yr [ ] 3yr	$_____
Family Associate membership	$12.50 x [ ] 1yr [ ] 2yr [ ] 3yr	$_____
Student membership	FREE	$ 0.00
One-time setup fee for Shell account	$10.00	$_____
Total.....		$_____

**Note: $10.00 fee will be charged for any returned checks*

Make your check payable to:
Mail check and application to:

Dayton Microcomputer Association
PO Box 4005
Dayton OH 45401-4005

Or use Paypal to send your payment to: **membership@dma1.org**

DMA use only

Member# _____ *Exp* ____/_____ *[ ] Cash [ ] Check#* _____ *[ ] Paypal Proc by* _____

Member# _____ *Exp* ____/_____ *[ ] Cash [ ] Check#* _____ *[ ] Paypal Proc by* _____

Member# _____ *Exp* ____/_____ *[ ] Cash [ ] Check#* _____ *[ ] Paypal Proc by* _____

Revised May 6, 2019