# *Predicting Behavior Using Computers*
Presented by Richard GILMAN, Terrace Metrics

— The Databus —

Monthly Newsletter of

The Dayton Microcompter Association

Volume X (New Series) № 11 (November 2020)

—Contents—

SAVE A TREE (or at least a branch) ! If you prefer to print your DATABUS rather than read it directly from a monitor, don't print page 16 unless you need to renew your membership.
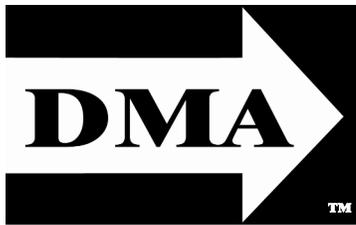
ESTABLISHED IN 1976, DMA is a group of Dayton-area professionals and enthusiasts in the field of computing and digital information technology. General Membership Meetings are usually held on the last Tuesday of each month. DMA has a number of Special Interest Groups (SIGs) in areas ranging from digital 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.

Submissions ...

THE DATABUS welcomes compliments, complaints, suggestions, and especially articles. We can accept articles in ASCII, or as attachments in Microsoft Word, Open or Libre Office Writer, or, yes, even WordStar (a word-processing program that goes back to about 1980!). Send articles to:

Editor@DMA1.org

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

ALL REGISTERED TRADEMARKS, for example: the DMA Arrow, Linux, Meetup, Simulide, Windows, Wordpress, or ZOOM, are the property of their respective owners. However, the Registered Trade Mark symbols (® or ™) have been omitted for better readability. The Editor occasionally inserts comments into articles. Such comments are sometimes preceded by the phrase: "EDITOR'S NOTE," are usually in square brackets [like these], and are always in sans-serif type, like these paragraphs.

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 for your digital device, please seek the advice or services of a qualified professional.

November Meeting: 7:00 P.M., Tuesday, the 24ᵗʰ
No Driving—No Parking—No Charge*
*See article below for details. This is a "hybrid" meeting: via ZOOM, but also in person. Please come at 6 P.M. for dinner.

Richard Gilman, Terrace Metrics:
HOW PREDICTABLE IS BEHAVIOR?

THIS PRESENTATION provides an overview of an innovative software program that assesses behavior health among students and adults, from age 8 on. The program has been used in several sectors, including education, first responders, health care settings, and the general workplace. The software is linked to a variety of resources that can be used to improve self-identified areas of need. We shall see the power of data using cloud-based platforms to inform individuals and workplaces of the impact of behavioral health on a number of health, social, educational, and occupational outcomes.

RICH GILMAN is the president and co-founder of Terrace Metrics, Inc. He is a Fellow of the American Psychological Association and the International Society of Quality of Life Studies. A licensed psychologist, Dr. Gilman's research has been formally recognized as exemplary in terms of understanding indicators that best predict optimal human functioning. Dr. Gilman received his Ph.D. from the University of the South and his MBA from Oxford University.

Terrace Metrics (terracemetrics.org) contracts with organizations to administer a comprehensive behavioral health (*i.e.,* risk/resiliency) tool that assesses the most reliable predictors of interpersonal and intrapersonal functioning. Terrace Metrics' proprietary software immediately provides the results for each student to schools and parents (if minors), or directly to the user (if adults). These results are accompanied by straightforward and practical suggestions for improvement or intervention (where necessary). The cloud -based platform and the information provided are both easy to access and understand and have been highly utilized by schools, first responders, healthcare settings, and general workplaces. Its school version is on the Ohio Quality and Effective Practice Registry, at the highest level.

Individuals wishing to choose the *free* online option for the meeting may request a link to the Zoom meeting through the form located at: https://www.dma1.org/contact-us/. For this meeting, there is a limit of 100 online attendees. This presentation will be recorded and made available to view within seven days through the DMA's YouTube Channel.

Huber Heights' T.J. Chumps restaurant is the venue for individuals wishing to choose the in-person option. There's no charge for admission, but you pay for your own meal, with the presentation showing on the meeting room's large screen TVs). The directions to this T.J. Chumps location may be found at: https://www.dma1.org/meetings/

People new to the DMA can access all upcoming meeting information through our meetup page, https://www.meetup.com/Dayton-Microcomputer-Association-Meetup/. Using the meetup site as part of the meeting process helps the DMA to better gauge participation interest. There is also a link to the DMA's Meetup Page at: https://www.dma1.org.   **... TDB**

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

Trustees' meetings are on the *first Monday of each month,* except when that day is a legal holiday, for example, Labor Day in September. For the convenience of Trustees who reside in Springfield, meetings before the epidemic were held at **Fire Station #2, 2200 Commerce Center Boulevard,** in suburban Fairborn on Dayton's East Side, began at 7 P.M., and are open to all DMA members, though only Trustees can vote. **In light of the ongoing epidemic, Trustees are holding their meetings using ZOOM.** They begin at the same time: 7:00 P.M. Request ZOOM credentials (that's a fancy way of saying "an invitation") at the November General Membership meeting.

MINUTES—DMA BOARD OF TRUSTEES
Meeting of Monday, October 5, 2020

CALL TO ORDER

The meeting was called to order at 7:00 P.M, by Peter Hess, via ZOOM.

Trustees present: Martin Arbagi, Glady Campion, Edwin Davidson, Pat Flynn, Peter Hess, Chester Howes, Ken Phelps, Ed Skuya. Absent: None. Guests: Mark Camden, Jay Finley, Gary Turner.

OFFICERS' REPORTS

President – Peter Hess

Last month's presentation went very well. Jan Kelley explained how ballots are processed behind the scenes during an election.

Peter suggested and the trustees agreed that we need to purchase a hotspot to use for our Zoom meetings. The public internet connection at TJ Chumps is not reliable. Edwin volunteered to bring a laptop to monthly meetings and handle the hookup from Chumps to the Zoom meetings.

Vice President – Ken Phelps

Ken evaluated another remote conferencing tool called Discord but found it was not very intuitive.

Secretary – Glady Campion

Glady presented minutes for the previous board meeting. Pat Flynn moved the minutes be accepted as corrected. Peter Hess seconded and the motion passed with Glady, Ed Skuya, and Chester abstaining.

Treasurer – Pat Flynn

Pat presented the Treasurer's report *(next page)*:

Peter noted that the Wright-Patterson Credit Union is asking for a notice on our letterhead of who holds the Treasurer's position, as a requirement for the credit card application.

(OCTOBER MINUTES—Continued from page 4)

COMMITTEE REPORTS

Audit – Glady Campion

    In progress

Fund Raising – Peter Hess

    In progress

Marketing – Edwin Davidson, Pat Flynn, Peter Hess, Debra McFall

<table>
<tr><td colspan="2">ACCOUNT BALANCES:</td></tr>
<tr><td>Fifth Third Checking</td><td>$2,289.54</td></tr>
<tr><td>Fifth Third Saving</td><td>2,681.42</td></tr>
<tr><td>WPCU Share</td><td>20.93</td></tr>
<tr><td>WPCU Checking</td><td>2,910.49</td></tr>
<tr><td>WPCU Money Market</td><td>14,114.86</td></tr>
<tr><td>Pay Pal</td><td>316.78</td></tr>
<tr><td>TIAA Certificate of Deposit</td><td>5,409.23</td></tr>
<tr><td>Invested with Dayton Foundation</td><td>+87,104.32</td></tr>
<tr><td>Grand Total:</td><td>114,947.57</td></tr>
</table>

Peter sent press releases to thirty-seven addresses in addition to APCUG, and received a few returns. Some outlets are starting to require Web forms. When he sends out future releases, he could use help with the Web forms.

Membership – Glady Campion

As of last month's General Membership meeting, we had 48 Regular, 3 Associate, 0 Student, and 5 Life members for a total of 56. Attendance for the meeting was 23, including 11 who attended in person at TJ Chumps. There was no 50/50 raffle. Edwin Davidson won the Targus 15" Business Casual Slipcase. Kathleen Kannik won the Fire TV Stick 4K. Mark Camden won the PNY 128GB 3.0 Flash drive.

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

No problems to report. Ken will look into pointers on Dreamhost to better understand our account.

Mark Camden has documented what he could of our Dreamhost account as well as the WordPress Web site.

Programs – Peter Hess

Thank you to Jan Kelly, Director of the Montgomery County Board of Elections for the talk on the handling of ballots.

October is Cyber Security Month – Bob Gostisha from APCUG will do a presentation

November – A personality profiling software application

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

Publications – Martin Arbagi

The September DATABUS has been posted online.

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, November 2, 2020 via Zoom.

The Fairborn Fire Station #2 is currently closed, but still reserved through December 2020 in hopes we will soon return.

(OCTOBER MINUTES—Continued from page 5)

NEW BUSINESS

Election of Officers – Peter Hess

Pat Flynn moved that the following officers be installed for the coming year. Ed Skuya seconded and the motion passed.

- ✓ President – **Ken PHELPS**
- ✓ Vice President – **Peter HESS**
- ✓ Secretary – **Glady CAMPION**
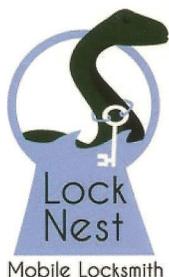- ✓ Treasurer – **Pat FLYNN**

ADJOURNMENT

Pat Flynn moved to adjourn at 9:22 P.M. Edwin Davidson seconded and the motion passed.

Respectfully Submitted,
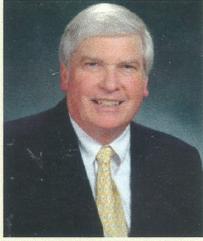
Glady Campion,

Secretary

In compliance with State regulations, the annual DMA HOLIDAY DINNER has been <u>canceled</u> for 2020!

DMA Events for Nov 15 ... Dec 19 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Nov 15	Nov 16 **Apple Dayton SIG** CANCELED	Nov 17	Nov 18	Nov 19 **Linux SIG** 7:00pm Online	Nov 20 **Python Self-Study** Noon, Online	Nov 21
Nov 22	Nov 23	Nov 24 **MAIN MEETING** 7:00pm Online - AND- TJ Chumps 7050 Executive Blvd Huber Heights	Nov 25	Nov 26	Nov 27 **Python Self-Study** Noon, Online	Nov 28
Nov 29	Nov 30	Dec 1	Dec 2	Dec 3 **Genealogy SIG** CANCELLED	Dec 4 **Python Self-Study** Noon, Online	Dec 5 **Classic Computers** 3:00pm By phone
Dec 6	Dec 7 **DMA Trustees** 7:00pm Online	Dec 8 **Investment SIG** <u>Canceled</u>—see you in January !	Dec 9 **Dayton Dynamic Languages** 7:00pm Online	Dec 10 *Khanukkah Begins*	Dec 11 **Python Self-Study** Noon, Online	Dec 12
Dec 13	Dec 14	Dec 15	Dec 16	*Dec 17* **Linux SIG** 7:00pm Online	Dec 18 **Python Self-Study** Noon, Online	Dec 19 **Classic Computers** 3:00pm By phone

Patronize Our Member–Advertisers!
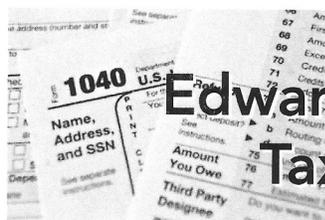
—Electronic Circuit Simulation—

By Dick MAYBACH, Brookdale Computer Users Group
www.bcug.com

EDITOR'S NOTE: Because of the large number of illustrations accompanying this article, they've been moved to the back of the text. Simply click on the hyperlinks in the text to go to the page with the appropriate illustration.

n2nd (at) att.net

CIRCUIT SIMULATION will interest only a few, but skimming through this article should impress you with the support a PC can provide for this specialized area. You likely have different interests, and it would probably be worth your while to search for equivalent tools appropriate for you.

When I began my electronics career many years ago, my design tools were pencil, paper, and a slide rule, and to check my circuits I used a soldering iron and a lab full of equipment, but now I can do all this on my PC using circuit simulation software. An easy introduction to circuit simulation is the free SimulIDE: https://www.simulide.com/p/home.html

Its main disadvantage is its documentation, which means you may have to approach it as though it were an adventure game. For instance, the examples weren't available in my Linux version, and I had to extract them from a downloaded Windows version. Fortunately, SimulIDE is intuitive to use, making it a good starting point, and once you become acquainted with simulation, stepping up to more capable tools with their steeper learning curves, will be less daunting. Figure 1 *(click here)* shows SimulIDE with a very simple circuit.

Create the circuit by dragging components from the left to the center panel. Right-click on a component and select **Properties** to change them from their defaults (5 Volts for the voltage source and 100 Ohms for the resistor). Left-click on a point to start a wire, move the cursor to where it should end, and left-click again to end it. You may notice that the circuit of Figure 1 doesn't appear to be working. Ten volts is applied to the divider circuit, but the probe measures zero. This is because I haven't turned on the fixed voltage source (by clicking on the small square to its left) or started the simulation (by selecting the red power button at the top). I've corrected this in Figure 2 *(click here)*, and the probe now reads five volts as it should. (The probe is not permanently connected, but can be moved as needed around the circuit.)

Turning on the source changed its color to orange, and starting the simulation did the same for the probe, which now displays the voltage at the point it touches. Figure 3 *(click here)* shows a slightly less trivial example.

Here the source is a wave generator set to produce a square wave, the detectors are oscilloscopes, and the circuit includes an inductor and a capacitor. I've found it necessary, after allowing the oscilloscopes to initialize, to turn off their auto feature. (Look carefully at the scope icons to

see that Auto is not checked.) Then use the cursor to spin the horizontal and vertical scale controls (on the oscilloscope icons); you will probably have to make many revolutions of the knobs.

Of course, many circuits include active components, such as the one in Figure 4 *(click here)*, which is an example included with the software.

The wave generator is the same one used in Figure 3, but here, as shown by its properties in the left panel, it is set to produce a sine wave. There are also two probes shown, but their outputs are assigned to channel 1 and channel 2 of the plotter (by right-clicking on the icons to display their properties). This causes the waveforms they see to be displayed in the plotter windows, rather than the DC voltage they see being displayed next to their icon. We would obtain more accurate plots with the oscilloscope component used in Figure 3, but it's often more convenient to use probes and their plotter function, as the latter can display up to four waveforms. The program also simulates logic circuits, like the hexadecimal counter shown in Figure 5 *(click here)*.

The clock is set to one Hertz, which causes the display to count continuously from 0 to F, changing once per second. Clicking on the Reset button forces the count to zero. More complex digital circuits are available, for example, five different Arduino models, one of which is shown in Figure 6 *(click here)*.

Here an Arduino Uno has been programmed to move a (white) servo arm back and forth over a 180-degree arc. The left panel shows the microprocessors available for use and, in particular the Arduino models. As usual, the center panel shows the circuit, while the program being run appears on the right, with a debug session below it. (You must have the Arduino IDE software installed to support it.) Unfortunately, the instructions I've found on simulating Arduino processors are specific to the Windows version of SimulIDE, and so far I haven't found how to program the processor simulation in Linux.

SimulIDE is a good tool for the home experimenter, but it does have limitations. For example, there are only a few transistor models, and these aren't adequate for radio-frequency design. However, it is a good starting point, as it's easy to learn. I've begun experimenting with KiCad, https://kicad-pcb.org/, which is much more competent. As a result, it's also more difficult to learn, but extensive tutorials are available on the KiCad Web site. Many professional circuit designers use Orcad's PSpice, but its price puts it far out of the reach of home users. A free version is available to students, which is a good choice if you qualify. (Non-students can find a pirate version, but putting one of these on your PC is never a good idea.)   **... TDB**
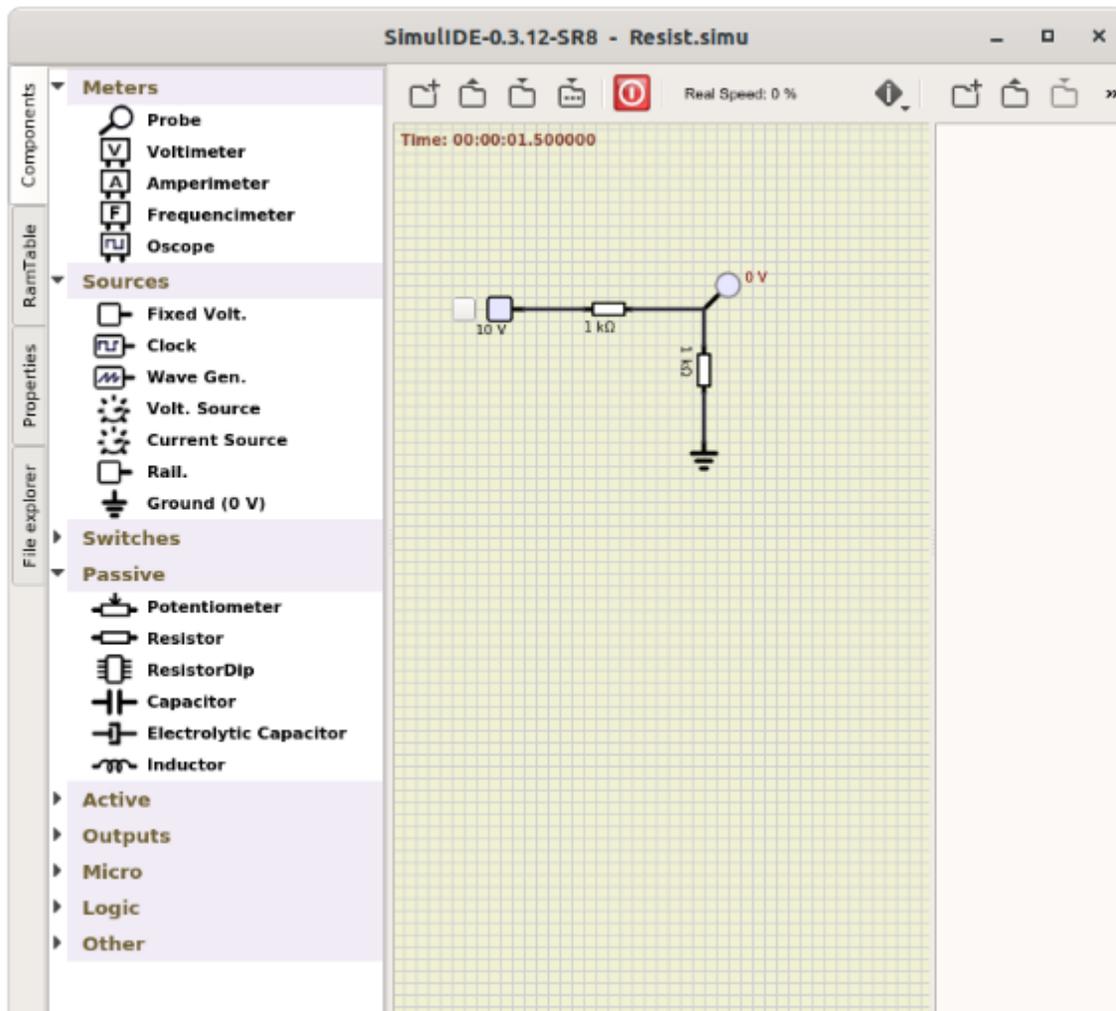
[EDITOR'S NOTE: Illustrations begin on the next page.]

(CIRCUIT SIMULATION—Continued from page 10)

Click here
to return
to page 9.

FIGURE 1: A Very Simple Circuit.

There will be no Databus in December. Minutes of the November and December Trustees' meetings will be published in the January issue.
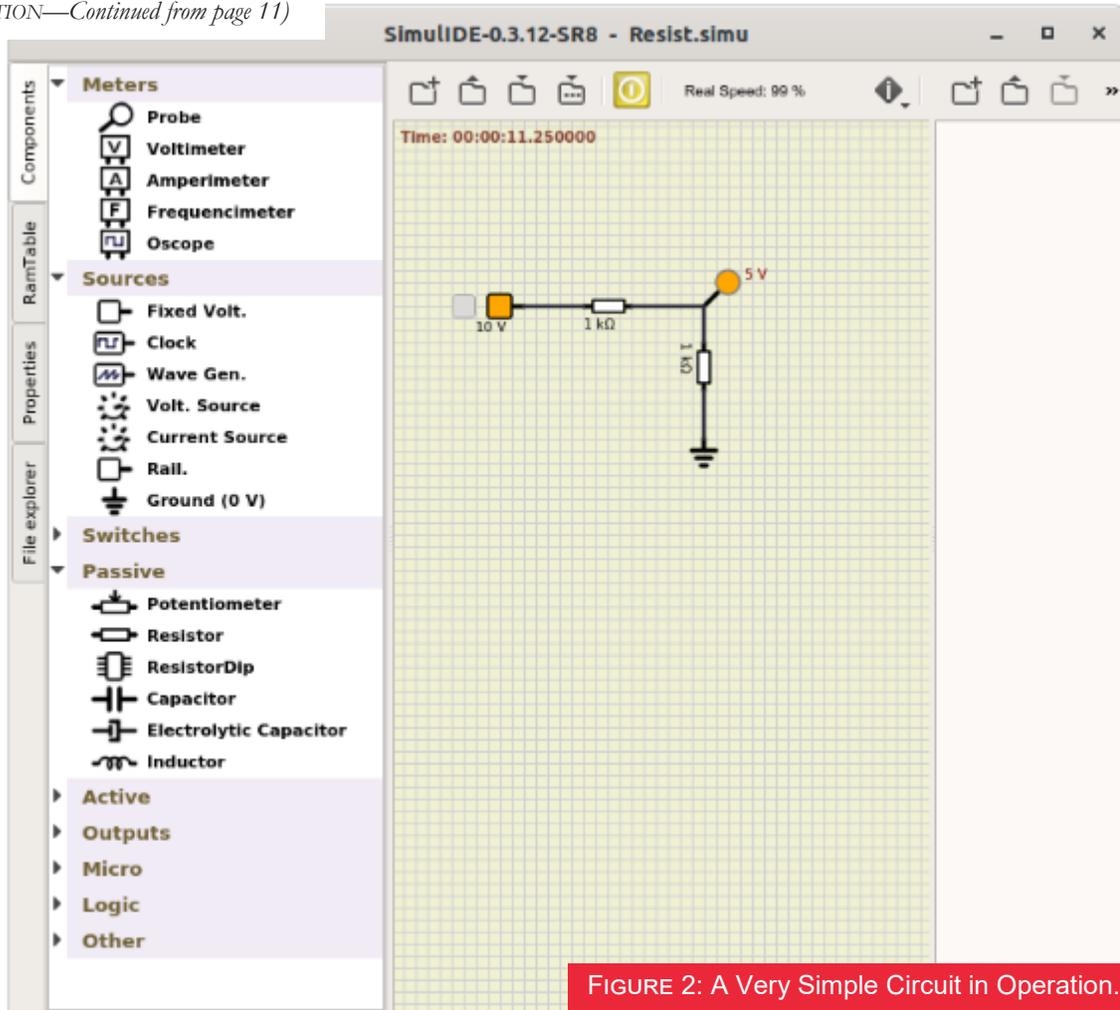
(CIRCUIT SIMULATION—Continued from page 11)
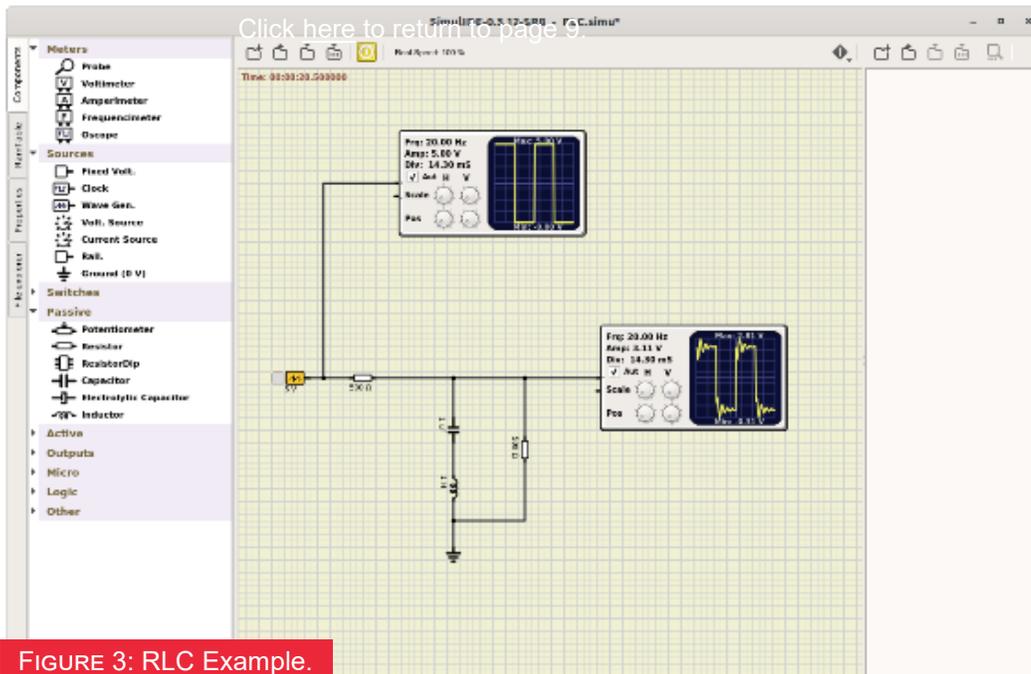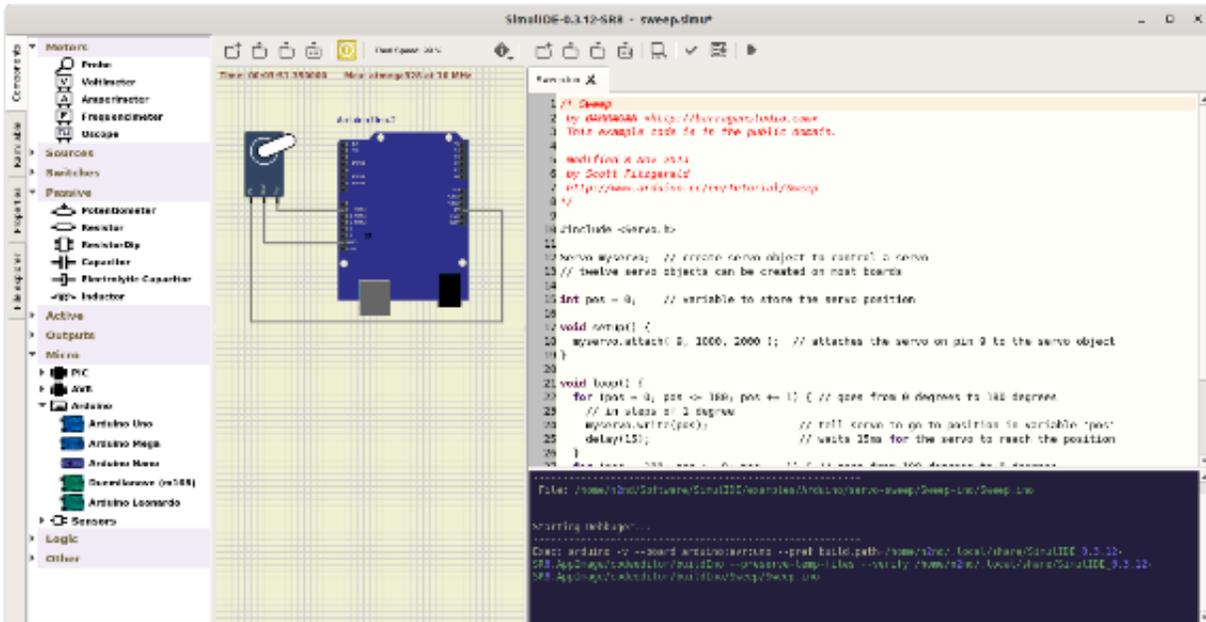

FIGURE 2: A Very Simple Circuit in Operation.

Click here to return to page 9.

FIGURE 3: RLC Example.

FIGURE 4: A Simple Active Circuit.

FIGURE 5: A Hexadecimal Counter. ↓

FIGURE 6: An Arduino Simulation.

About The Dayton Microcomputer Association, Inc. (DMA)

By Peter HESS, DMA President, 2018-2020

Mᴏʀᴇ ᴛʜᴀɴ ꜰᴏʀᴛʏ-ꜰᴏᴜʀ ʏᴇᴀʀꜱ ᴀɢᴏ, a small group of computer enthusiasts from the Dayton, Ohio area gathered around a kitchen table looking at, and playing with, an early personal computer called the Altair 680 that one of them had purchased. This computer had been featured earlier on the cover of the January 1975 issue of *Popular Electronics* magazine. Paul Allen had shown the selfsame article about the Altair to Bill Gates, and later, they wrote software together for that computer. Still later — and still together — Allen and Gates founded the Microsoft Corporation.

Shortly thereafter, those Dayton-area computer enthusiasts joined together with many others to form Tʜᴇ Dᴀʏᴛᴏɴ Mɪᴄʀᴏᴄᴏᴍᴘᴜᴛᴇʀ Aꜱꜱᴏᴄɪᴀᴛɪᴏɴ (DMA), now one of the oldest (if not *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 501(c)(3) non-profit organization.

Now, 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 publishers, and users of their products. User groups (both computer and technology) provide an environment where more experienced technology users introduce additional and advanced techniques to novices.

DMA offers both monthly General Membership 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 eight different SIGs sponsored by the DMA, covering such topics as the Linux operating system, various programming languages such as Python, the use of technology to investigate genealogy, and digital aids to investing. Neither SIG members nor attendees at DMA General Meetings need be members of the parent organization, though they are encouraged to join so DMA can continue providing its services to the public.

Annual dues for DMA membership, which have not been raised for decades, are $25 for Regular Members, and $12.50 for Family/Associate Members (someone living at living at the same address as a Regular Member). Nonvoting Student Memberships are *free* to students through age 22. Door prizes at General Meetings, picnics, banquets, and other DMA events, 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: Dayton Microcomputer Association, Inc
Mail check and application to: 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 February 25, 2020