Computer Experiments

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In the early days of PCs, we had no choice but to experiment with them. Back then, what today are simple changes required changing hardware and software configurations. Since a PC was more of a toy than an essential appliance and stored no important information, if a problem arose it affected nothing except the PC itself. Contrast this with today, where we rely on our PCs for essential communication, for filing our taxes, and for storing important information. All this makes us reluctant to experiment lest we lose an important asset. The result is that as we come to depend more and more on our PCs, we tend to know less and less about them.

The solution is to use a safe "sandbox" where we can experiment without risk, and we can implement one with either hardware or software. This isn't always necessary; for example writing computer gaming software usually doesn't endanger the PC on which it runs. In fact, all modern operating systems restrict what applications can do, in particular, they are usually prevented from making changes in the operating system or other applications. However, applications are allowed to modify user files. If this concerns you, create a separate account for your experiments.

There are several approaches you could use: boot from a live CD-ROM, dual boot two operating systems on one PC, or use a virtual machine, an old PC, a Raspberry Pi, or an Ar-

duino. One or more of these probably suits your purposes.

In the live CD-ROM approach, you use a special operating system that runs from a read-only medium rather than a hard disk. Such media also include live DVDs and live memory sticks. You can use these on any PC that will boot from a CD-ROM or a USB device. (Booting a live media on a Mac can be problematic, with many people reporting problems. There is a utility that creates a live USB memory stick that boots on a Mac, http://www.makeuseof.com/tag/how-to-boot-a-linux-live-usb-stick-on-your-mac/, but I haven't tried it.) The advantages of this approach are that it doesn't require any changes to the host hardware or software and that when you power down and remove the live medium the host system is unchanged. However, there is a substantial performance penalty because of the low data-transfer rate of the live medium, especially if it's a CD-ROM or DVD. Also it is generally not possible to update the live OS or to add applications to it. Almost all live CD-ROMs are Linux, and the main uses are to see if your hardware is Linux compatible and to run diagnostic or high-security software.

In the dual-boot approach, you either partition your hard disk or add a second disk, install a second operating system, and modify the disk boot record to allow you to choose which system to run at boot time. Because this requires making substantial changes to your software configuration, you must proceed carefully. The best time to do it is on a new PC that isn't storing any vital data. Thus, when you acquire a new PC, if you think you might be interested in trying dual boot at some later time, you might set it up for it immediately. This is also possible on a Mac, see http://www.notebookreview.com/howto/in-progress-how-to-dual-boot-from-a-mac-into-windows/,

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Logo designed on an Atari Stacy Laptop in 1989 by Dwight Johnson Jr.

Lake County Area Computer Enthusiasts

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Membership
LCACE membership is open to all individuals and families interested in personal computing. Annual dues are $20.00 per individual/family. Applications for membership may be obtained at the monthly meeting, by request on the club hotline, and are now available on our web site at http://www.lcace.org.

Meetings
LCACE meetings are usually held on Saturdays at the Grayslake Area Public Library, 100 Library Lane, Grayslake, Illinois. The meeting room opens at noon and the formal meeting begins at 12:30 p.m. All meetings are open to the public. Bring a friend!

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Phil's Ramblings

July has been an exciting month!

For starters, Liz & Fred Barnett hosted our annual picnic at their home on July 11th, attended by about 30 members and guests. The rain held off (mostly), Lew Seidenberg served as grill master and lots of folks brought food and helped Liz set things up inside. Plenty of good conversation and relaxation! Thanks, Liz & Fred!

As the month drew to a close, Microsoft launched Windows 10 on July 29th! (As it turned out, most of the 5 million volunteers participating in the Windows Insider program during the design and development of Win 10 actually received the final version some two weeks before launch, in the form of Build 10240. All that happened for us on the 29th was a change in the operating system ID shown in My PC from "Windows 10 Technical Preview" to "Windows 10".)

We are currently planning to devote our September L.C.A.C.E. program to Windows 10. By then the reviews should be in and those of our members who chose to upgrade immediately will have some experience they can share with us. We are also hoping to have one or two Microsoft engineers join us for a Windows 10 Q&A session and discussion. In the meantime, I encourage anyone interested in learning more about Windows 10 – what's new, what remains the same, ease of upgrade and overall reception by users and "experts" – to search the Internet for "Windows 10". I just tried that, and up popped lots of news articles, reviews and other related information. I'm sure that new entries will be appearing daily, for at least a while. (Overall, the reviews I have seen are positive and it appears that the upgrade process has worked well for most; 14 million upgrades were completed in the first 24 hours after launch.)

As you probably already know, a driving force behind the design of Win 10 was Microsoft's desire to create one OS that can be used across all of the devices that a typical computer user might own – PCs, tablets and smart-phones. With a common OS, universal apps and Microsoft's One Drive cloud storage a user can theoretically create and consume content seamlessly across all devices, anywhere. (Of course, this will presumably work better if the user owns a Windows PC, a Windows tablet and a Windows smart-phone – although Microsoft is hedging its bets by offering Microsoft Office to Apple and Android users as well.) But while I understand the concept, I am unclear – at least at this point - about how it will actually work in real life. I guess time will tell, as we all become more familiar with Windows 10 and the growing line-up of Windows apps.

(Give Microsoft credit for trying. It appears that they are well aware of how much they lag their completion in the ability to offer apps to phone and tablet users. They are working in-house to develop "universal" Microsoft apps that will run on all Windows platforms and with outside developers to create Windows versions of popular Android and Apple apps. Here is what Microsoft is currently saying about the revised apps Store built into Win 10: "We're wrapping up our series of blog posts on awesome Windows 10 features by talking about the new Store in Windows 10, the largest Microsoft-certified, one-stop shopping experience for free and paid digital content for all your Windows devices……And have confidence that everything you download from the Store is certified by Microsoft to help keep your devices safer with automatic updates to ensure your apps are always current.")

Enjoy the rest of the summer!

but again I have no experience with this. There is no performance penalty here, except for the disk space that the second operating system occupies, since whichever one is running has the full use of the PC. Only one operating system can be running at any time, and switching between them requires a reboot. Files can usually be transferred between the operating systems by reading from and/or writing to the idle operating system disk area, but in some situations you may have to transfer using a USB memory stick or external disk.

If you have a fairly powerful computer, using a virtual machine is the most convenient way of experimenting. A virtual machine manager is an application program that runs on your main operating system (called a "host") and provides an environment for a second operating system (called a "guest"). As far as the guest knows it has its own hardware. This does not require modifying the host hardware or software, as the virtual machine manager is just another application. A popular VM program is the free VirtualBox, http://www.virtualbox.org/, with versions available for Linux, OS X, and Windows. The performance penalty is small provided the host CPU has virtual machine support features. The host computer also must have enough resources to run the host and guest OS simultaneously, in particular enough RAM (at least four and preferably eight Gbytes) and disk space (allow at least eight Gbytes for each guest). It's very easy to add and remove guests, and the guests can be updated and can accept the installation of new applications. Since both guest and host operate at the same time, you can simultaneously run tasks on both. If the host PC is networked, the guest appears as a separate PC on the network.

If you have an old PC, you can use this for your experiments. It probably isn't fast and may have limited RAM and disk capacity, and you probably can't run the latest operating system, but this may not affect your experimenting at all. If it is very slow, try to figure out why. Often, the problem is not enough RAM, and this is cheap to fix. Since you are probably reluctant to put much money into a relic, you should consider switching it to Linux, which reduces all your future software expenses to zero, and at the same time makes available hundreds of applications. Some Linux distributions are designed to run well on old, slow hardware.

Rather than reuse an old PC, you could purchase a Raspberry Pi, http://www.raspberrypi.org/, a complete PC available for less than $100 if you can use an existing display. Although it's tiny, about the size of a credit card, it has similar performance to an old PC, and since it uses Linux, the software is free. Because it has an Ethernet port, it's suitable for building network servers (multi-media, file sharing, Web, etc.). And because it's completely separate from your home PC, it's safe for hardware experiments where it's connected to external devices. If you completely destroy the Raspberry Pi card, it can be replaced for about $40. There is an active community interested in the Pi with the result that many books, magazine articles, and support Website are available.

Another hardware solution is the Arduino, http://www.arduino.cc/, which like the Pi is credit-card sized, but this is a programmable controller rather than a computer. It runs as a USB peripheral to a Linux, OS X, or Windows machine, and is programmed in a variant of C++ using free software. It has no operating system but typically runs only one program, which starts at power-on and runs until power-off. There is a free compiler to code applications for Linux, OS X, and Windows using essentially the same language as does the Arduino. Thus learning a single language allows you to process on a PC data that you input from an Arduino. While you would experiment with networks, servers, and operating systems with the Pi, you would use the Arduino to explore programming and electronics. This approach is especially attractive for controlling external devices, since unlike a PC, it has terminals that can input and output voltages. It too has an active community, with many books, magazine articles, and support Websites available.

As you can see, you have many ways to experiment without endangering your tax records or your collections of photos, video, or music. You can choose the one that fits your purpose and your pocketbook. Remember that both Windows and OS X have restrictive licenses that limit where they can be used. Before you spend significant time or money, be sure your use conforms to the appropriate license. With Linux, you can ignore this issue.

Product Review

Key Ring is an app that organizes your bar code reward cards that you keep on your key ring or in your wallet, making huge bulges. The vast majority of my cards are in the black hole of my glove compartment. If you don't have the card with you when you need it, you have to spend time at the checkout giving the clerk your phone number so they can look it up. Meanwhile, everyone behind you is aggravated. I

Submitted by
Terri Hanlon

t was recommended to me by a friend. I was skeptical! But this was a nice friend not one of my kids who like to play jokes on me. He put a couple of my cards into the program and to my surprise, I love it. It works like a dream! I was skeptical! I was at Petco. I just got my little rescue dog so this is a whole new world for me. So I'm a new signer-upper. At the checkout I proudly gave them my telephone number. "I don't see anything", the clerk said. I gave him another number. No luck. I said to self, "My Key Ring". I whipped out my Android smartphone, clicked on the app, clicked on Petco and I was saved about $6.00, because the discounts were for new members.

It's very versatile since it can be used anyplace that has a card and barcode reader like the movies, grocery store, restaurants, gas stations, general merchandise, hardware, etc.

Each merchandiser is identified in Key Ring by the store logo. If you don't have a card you can search for the merchant that you want and sign up. Special sales item are available along with the weekly advertisements, ex. Walgreen's. If you shop at Walmart, you can identify items that cost less at other stores, in the app, and show them at checkout if needed for verification. No messing with carrying newspaper ads.

Another feature is that you can keep all your shopping lists in one place.

It is easy and simplifies my life.

I feel so tech savvy when checking out with my smartphone Key Ring.

I love it!

NEED HELP with your computer, tablet, or phone? There are actually several places that you can go to get help.

A great place to go is to online communities. These online groups can be very helpful in getting questions answered and learning from others. If you don't know where to look for them, just Google your questions and you will get links to several places that might give you an answer and that you might want to revisit later.

Friends and family are also great resources. If you have the same type of phone or tablet as others you know, start sharing the little tips and how-tos that you discover and they are sure to reciprocate by showing you what they know.

When you are looking for apps for your smartphone, tablet, or computer, you can also take advantage of the opinions of others. The Apple iTunes store, the Google Play store, and the Kindle app store all allow users to rate apps. This is extremely useful for finding new apps. And if you haven't yet played with apps, please start now. They provide a whole new world for you to experience.

Happy Birthday!

Robin Seidenberg

Get Help From Others

Sandy Berger, CompuKiss
www.compukiss.com
sandy (at) compukiss.com

APCUG is pleased to announce that Sticky Password has created a landing page on their website that gives APCUG members a 40% discount on their Premium password protection program: *1 user / 1 year*: *$11.99 – 1 user / Lifetime: $41.99*

https://www.stickypassword.com/lp/apcug

You can install Sticky Password Premium on all of your Windows, Android, and iOS devices, and it syncs data between all your devices automatically. In order to sync your passwords between devices, Sticky Password needs to store an encrypted copy of your data in the cloud. Nobody can get at that copy without having both your online account password and your master password. For the super-paranoid, the latest edition offers a new option: Wi-Fi sync. In this mode, your devices sync directly with each other when they're connected to the same Wi-Fi network. Your data never goes to the cloud. It also supports fingerprint authentication.

The program is used by more than two million customers worldwide and was a PC Mag.com Editor's Choice in February 2015. Here's a quote from Daniel Franklin, Kaspersky Lab's VP of Alliances: "A robust and reliable password management option adds one more layer of protection for our clients."

Check out:

- the difference between Sticky Password and the competition https://www.stickypassword.com/features/compare

- the Help and FAQ page https://www.stickypassword.com/help/general

- their blog http://blogen.stickypassword.com/

Alex Tischenko, founder and VP of Development, came up with the original concept of a secure, easy-to-use password manager in 2001 and continues to strive for perfection in execution every day. Their parent company is Lamantine Software, and "lamantine" means manatee in French; each purchase of Sticky Password helps save the manatees around the world because they are an endangered species.

Sticky Password is a 2015 APCUG Conference sponsor.

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thoughs on WORK

In the end, you're measured not by how much you undertake but by what you finally accomplish.

Lake County Area Computer Enthusiasts

Do you have computer questions
or need help with your computer?

Visit Lake County Area Computer Enthusiasts'
help desk for one on one help

Open to all

11:15 a.m.-12:15 p.m.
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