THE GIGABYTE GAZETTE

The Monthly Newsletter

of the

SUN CITY SUMMERLIN COMPUTER CLUB

https://www.scscc.club

October, 2021

Table of Contents

Issue Contributors

Tom Burt	**Peggy Cushman**
Kathy Kirby	**David Kretchmar**
Jeff Wilkinson	**Jim Cerny**

President's Message

Waymo Self-Driving Cars

by Jeff Wilkinson

On a recent visit to San Francisco, we noticed Waymo cars on many of the downtown streets. At first, we thought it was part of Google maps since Waymo is an Alphabet company, which is Google's parent company as well. But after seeing multiple Waymo cars together we, you guessed it, Googled it, and found out it was a ridesharing service.

The Waymo taxi service began in Phoenix shortly after mapping of the greater Phoenix area was completed in October 2020. This driverless service was previously available only to research testers and with a safety driver onboard. Now, it serves a 50-square-mile area in the Phoenix suburbs of Chandler, Tempe, and Mesa. With a huge investment at stake, the challenge is to reduce the amount of human interaction required to safely perform the service.

At this time, San Francisco is in Beta testing, initially offering free rides to select passengers in San Francisco via its Trusted Tester program. Waymo's fleet includes Toyota Priuses and hybrid Chrysler Pacificas, but, Waymo has partnered with **Jaguar** to deliver the world's first fully self-driven premium EV experience. We saw only these vehicles in San Francisco.

Because San Francisco's terrain is hilly, with dense streets and multiple obstacles from continuous construction activity, Waymo cars will have a safety driver on board. The team has been mapping the city since 2019 and the cars contain 5 LiDARs (Light Detecting and Ranging) and one surround view camera on top of each car. LiDARs provides a detailed, 3D map of the car's surroundings. It provides shape and depth to the objects, roads, buildings and more. The data from these sensors in fed to a computer running Google's machine learning algorithm.

The human body has five senses, hearing, sight, smell, taste and touch. We use these senses to navigate the world we live in. Some of these senses are detected with man-made sensors in self-driving cars. Cameras for sight, taking multiple photos to be compared with known objects using the computer algorithm. Cameras are used with object detection algorithms to classify all the various objects the car sees into usable data for the algorithm. The cameras are also placed for 360-degree view and are adapted for identification in various light and climate conditions. Once the camera has gathered the data, an object detection algorithm, which involves the use of computer vision and neural networks is used to classify the objects into labels like pedestrians, cars, signs, and more.

LiDAR is used for simulating the touching sense, and providing range and distance information. Rotating at hundreds of revolutions per minute, the camera can provide a 360 degree view, and offers high resolution range information. The vertical angle of detection allowing height measurement and the updating frequency are other important features. Multiple channels with input from different laser beams provide higher quality data to the object detection algorithm.

The Waymo Driver uses the information it has gathered, along with its over 20 million miles driven in the real world, to predict where other objects (like pedestrians, cars, etc.) would go, how fast they would move, and the way they move.


It predicts **all** the possible paths each object may take, in less than a second. With constant updates and corrections as the trip begins.

In addition to safety and navigation, self-driving vehicles must be power-and-fuel-efficient. Numerous sensors, actuators, application-specific circuit boards, and subsystems are installed in self-driven vehicles to manage system-level operations, power consumption, and fuel efficiency.

The voltage in the vehicle battery is crucial for the safety of the users and the functionality of the vehicle and is constantly monitored. Autonomous vehicles use milliohm meters and shunts feeding differential amplifiers to precisely measure the battery voltage drop.

Actuators, step motors, and solenoid valves in the electronic fuel injection system help improve the fuel efficiency and reduce the emissions and are also actively monitored and controlled.
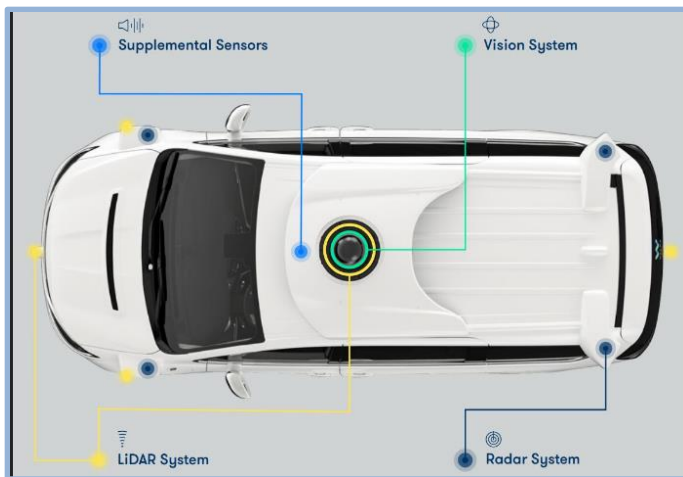
Self-driving vehicles depend on sensors, actuators, and processors to make crucial decisions on the road, ensuring the safety and comfort of their users.

So, these self-driving Waymo Jaguars with the odd looking spinning lidar and cameras are rolling hubs of technology with dynamic inputs feeding various actuators and solenoids which are constantly updated by feedback from even more sensors!!

Initial tests yielded less than stellar feedback but progress is steadily being made which is not surprising given the complexity of the project!!

Jeff Wilkinson, President
(702) 527-4056 *pres.scscc@gmail.com*

General Membership Meeting

Our next General Meeting will be held at **2 PM on Thursday, October7th in the Computer Club class and simulcast via Zoom**. The meeting's Zoom link can be found on the Computer Club home page at **https://www.scscc.club**. Our speaker will be **Bill James of the APCUG Speakers Bureau**, who's presentation is titled **"All About Chromebooks"**.

For Club information: go to www.scscc.club, contact Jeff Wilkinson, President at (702) 527-4056 or email him at pres.scscc@gmail.com.

SCSCC Board of Directors Actions

The Computer Club Board of Directors took the
following actions on September 8, 2021

Howard Verne made a motion that the **minutes of the August 11, 2021 Board Meeting be approved as submitted.** The motion was seconded by George Lobue and unanimously approved by the Board.

Tom Burt made a **motion** that the meeting adjourn. Chuck Hagen **seconded** the motion, and it was unanimously **approved** by the Board. The meeting was adjourned at 10:05 AM.

October 2021 Printable Calendars

To view this month's classroom and lab calendars, click the following hyperlink:

http://www.scscc.club/Calendars/scscc_calendar_2021-10Oct.pdf

Submissions Welcome

We are always looking for new information to share with our club members. If you have computer or technical information you would like to share with members of the club, send your articles to editor **Tom Burt** at tomburt89134@cox.net. Thank you to everyone for your contributions.

Welcome New Members

The following new members have joined the Computer Club
from August 28th to September 29th.

Robert Cushman	**Gail Koster**
Sharon Feen	**Margaret Lee**
Glenn Goodal	**David Shinder**
Kathryn Kerrigan	**Irwin Wallace**
Charles Koster	

As of September 29th, the club has 580 paid memberships for 2021.

As of December 31, 2020, the club had 614 paid memberships.

Special Interest Groups and Kaffee Klatches

Special Interest Groups (SIGs) provide a forum for general discussion on a specific computer related subject. Admission to all SIGs is on a first-come, first-seated basis and is subject to the maximum allowed by fire code regulations. <W>, <L>, <M> or <H> indicate whether a SIG would be of interest to a Windows, Linux, MacOS or Hand-held Device user.

Apple Q&A One on One Help <M/H> *Live in the Classroom*
Advance Reservations Required!

Gail Weiss (702-355-6220)
Third Monday, 10 a.m. DARK in October

Bring your Apple iPhone, iPad, Watch or MacBook to get one on one help with your questions about how to use any Apple device and popular iOS or MacOS apps.

Repair SIG <W/L/M> *Live in the Classroom*

Chuck Wolff (702-233-6634) and Chuck Hagen (702-418-2614)
Every Tuesday, 12:30 p.m. to 3:30 p.m.

The Repair Lab provides **CLUB MEMBERS ONLY** with no-cost assistance for those having upgrades and / or hardware and software problems with their computers. Bring in only your PC tower, your Mac or your laptop and your problems. Our TECH team will give you our best effort. ***Be sure to mark your cables so you can re-connect when you get home***.

Internet Investing <W/M/H> *via Zoom*

Tom Burt (702-341-7095
3rd Thursday, 9:00 a.m. in even months
Next meeting: October 21st

The Internet Investing SIG provides a forum for members interested in using Internet resources for researching and managing investments to meet, discuss, and learn more about the topic. The SIG's target audience is members with intermediate computer skills and investment experience, but all members are welcome.

Kaffee Klatch <W/M/H> *via Zoom*

Jeff Wilkinson (702-527-4056)
Every Tuesday, 8:30 a.m.

This Kaffee Klatch is an open, free-form discussion group for all users, from beginning to advanced. KK discussions are not restricted to any one subject, computer platform or computer-knowledge level but should be computer or technology related. We will try to answer your questions, help you keep your systems updated and provide some useful "tips and tricks."

Windows 10 SIG *Live in the Classroom*

Bill Wilkinson (702-233-4977)
First and Third Saturdays at 9:30 a.m.
Suspended (DARK) in October due to COVID restrictions.

If you are a novice or near-beginner computer user, or if you just want some refresher information together with a refreshing cup of coffee, then jump-start or recharge your computing knowledge by attending these Win 10 SIG / Q&A sessions. At each session, attendees will explore several topics of interest to beginners and near-beginners. The topics are always announced a couple of days in advance via e-mail to SCSCC members who have subscribed to the club's SCSCCNews mailing list. Each topic is presented in a step-by-step manner and is supported by "how to" notes that can be easily and conveniently downloaded from the SCSCCBKK.org web page. Following each "up front" presentation of one or more topics (approximately 60 minutes in duration), an informal open-ended Question and Answer period takes place for those who wish to participate, listen, reflect, or inquire.

Seminar Offerings

The club's Seminars, SIGs, Q&As and Kaffee Klatches are being conducted either as Zoom webcasts, live in-person or a hybrid of the two. Check the weekly calendar on the website to see which mode the session is using. Unless explicitly stated, advance registration is not required for Seminar sessions.

Desktop Linux Mint 20.2

Thursday, October 28th 9:30 AM – 11:00 AM *via Zoom*
Presenter: Tom Burt
Location: Zoom Webcast

The Linux operating system has been around for quite a long time and is widely used on web and file servers. It has also continued to improve as an alternative to the Windows and Mac OS desktop operating systems. With support for Windows XP, Vista and 7 long-gone from Microsoft, Linux can be a viable alternative to keeping older computers useful while offering the security needed for surfing the web. Also, if you're weary of endless Windows Updates that YOU can't control and that obsolete your perfectly good hardware, Linux Mint may be what you're looking for. Linux updates happen when YOU decide. Once again, you're in control of your own PC.

This 1½-hour presentation will look at the latest version (20.2) of the FREE Linux Mint "distro" with the Cinnamon desktop. Mint is a full-featured operating system with a Windows-like desktop and many built-in applications and tools. We'll demonstrate installing Linux Mint into a VMware virtual machine and then spend some time looking at its many features. We'll also look at how to extend desktop Linux Mint to make it a network file, database and web server, comparable to Windows 10 Pro.

The presentation notes will be available at about October 23rd:

https://www.scscc.club/smnr/Desktop_Linux_Mint.pdf.

Tom's Tech-Notes

Where to Get E-Books

As we approach the holiday season, a perennial challenge is to find suitable gifts for friends and family. Books have always been a popular choice. Now, with the maturing of the electronic book (e-book) format and industry, it should be easier than ever to find just the right title, purchase it and email a link for your giftee to use to access and read the book. In practice, things aren't so simple, so you may want to read on.

This article is based a seminar I gave in December, 2020 titled "E-Books and E-Readers". My seminar slides are at: https://www.scscc.club/smnr/E-Books_and_E-Readers_Seminar.pdf

E-book formats

There are two main formats: Amazon Kindle and E-Pub. There are hardware and software readers for each. Both formats support digital rights management (copy protection) so that the purchaser of a book can't share it with more than a few others. The Kindle format is mainly used by Amazon. E-Pub is used by Barnes and Noble and Kobo and for many self-published books. Adobe PDF and HTML are also often used for e-books. Apple's iBook format is a variation of E-Pub.

When buying an e-book, it's important to know what format it is in so you can be sure your reader device or program can actually read the book. A common problem for owners of Amazon's Kindle or Fire tablets is that they do not support the E-Pub format. The Amazon app store does not offer an E-Pub reader app. It's possible to "jail break" a Kindle or Fire tablet so that it can install Android apps from the Google play store, including Adobe's Digital Editions E-Pub reader. But that's a topic for another day.

E-Book Websites

Here's a list of e-book websites with links to each:

- **Amazon Kindle Store www.amazon.com**
- **Barnes & Noble http://www.barnesandnoble.com**
- **Google Play Store Books https://play.google.com/store/books**
- **Kobo www.kobo.com**
- **Las Vegas / Clark County Library (via OverDrive) http://lvccld.org**
- **Open Library https://openlibrary.org/**
- **Project Gutenberg (60,000 free ebooks) https://www.gutenberg.org/**

Let's look at a few of them in more depth.

Amazon Kindle

The Amazon bookstore is vast. You can buy books in hardcover, paperback, audio and e-book format. As with all Amazon shopping, the search is very smart and you can set filters to narrow choices. You can click on items in the search results to view details and from there, add them to your shopping cart.

E-books are delivered (downloaded) to the reading device you specify, if buying for yourself. You can also specify you are buying for someone else and enter the giftee's information so they can receive the book.

You need an Amazon Kindle or Fire Reader tablet or Amazon's free Kindle Reader app to read Kindle books. There are versions for Windows, macOS, Linux, Android and iOS.

If you subscribe to Amazon Prime, you have access to a large collection of e-books at no charge via the Prime Reading service. You can have free access to up to ten e-books for as long as you wish. When you want another, just return or buy one of the ten you have.

The Amazon Fire HD 10 tablet with 32 GB of storage lists for $100.

Barnes and Noble

Barnes and Noble sells books in "Nook book" (E-Pub) format as well as paperback and hardcover. B&N also sells a family of Nook reader tablets and has a free reader app. You can set up an account on B&N and enjoy special pricing, free e-books and other perks.

See the screen shot below to get a sense of their online store. The search window is very smart.

The Nook book reader is a 10-inch Android tablet (made by Lenovo) with 32 GB of storage, listing at $130. It has full access to the Google Play Store apps. This would include the free

Amazon Kindle Reader app for Android. So, a Nook reader tablet could double as a Kindle Reader, allowing you to shop for books in either Nook or Kindle format.
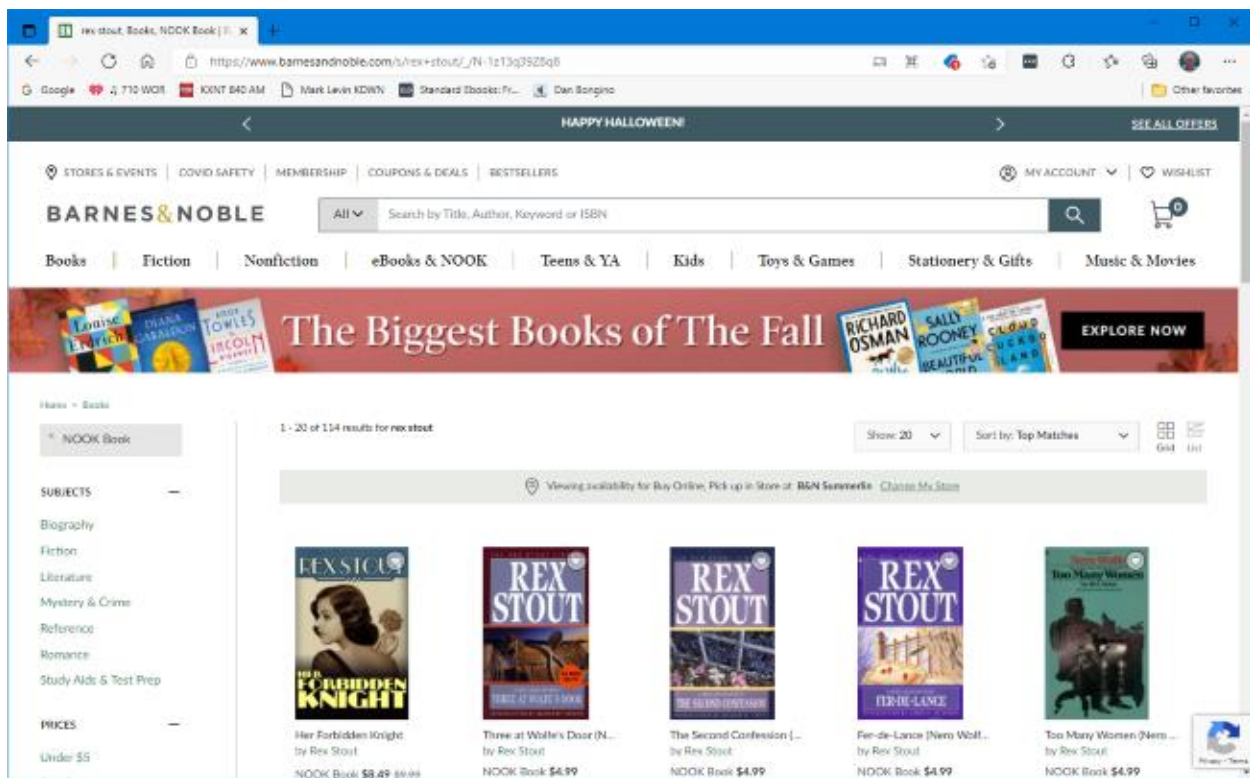

Project Gutenberg
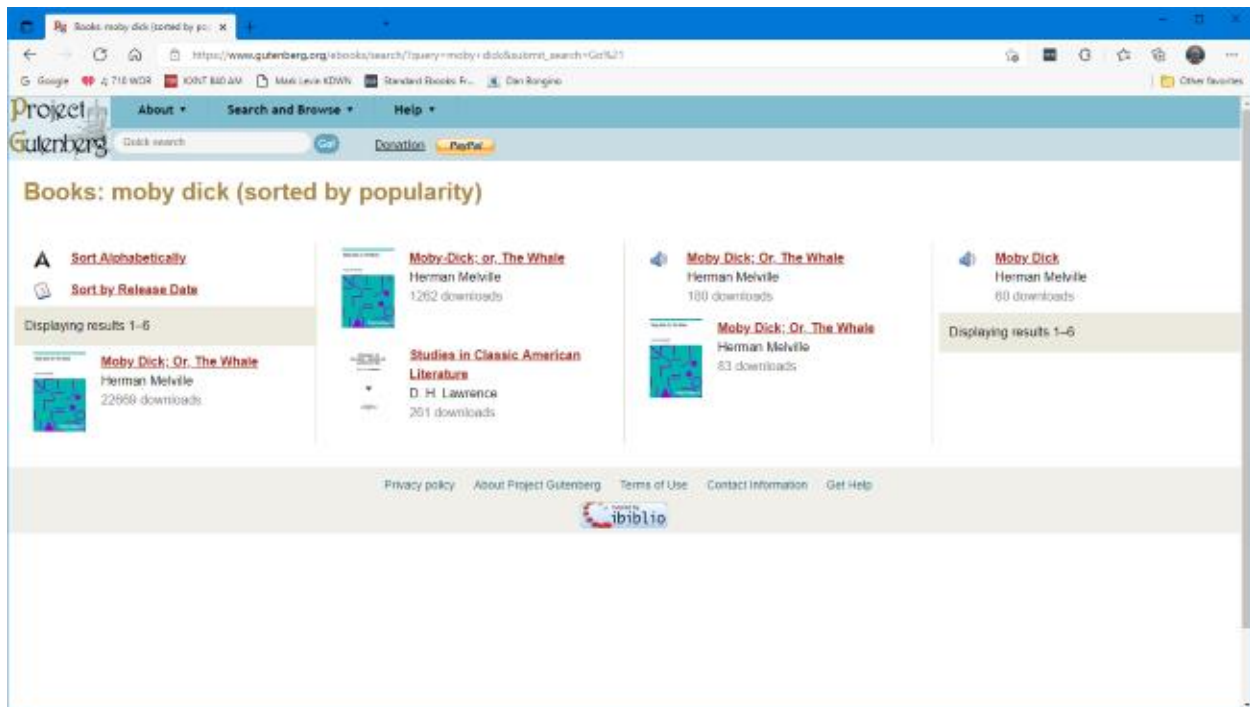
Project Gutenberg was founded by Michael Hart, who invented e-books in 1971. Its website claims to have 60,000 titles in its library. All these titles are completely free. Most are "classics" that are out of copyright. For example, I searched for Albert Einstein and found an English translation of his Special and General Relativity expositions.

I tried downloading a copy of Herman Melville's "Moby Dick" in Kindle format and was able to read it using the free Calibre book reader app on my PC. The Amazon Kindle Reader app wasn't able to open the book. I'll try to find out why and also see if I can copy the e-book to my Amazon Fire tablet and read it there.

Las Vegas Clark County Public Library
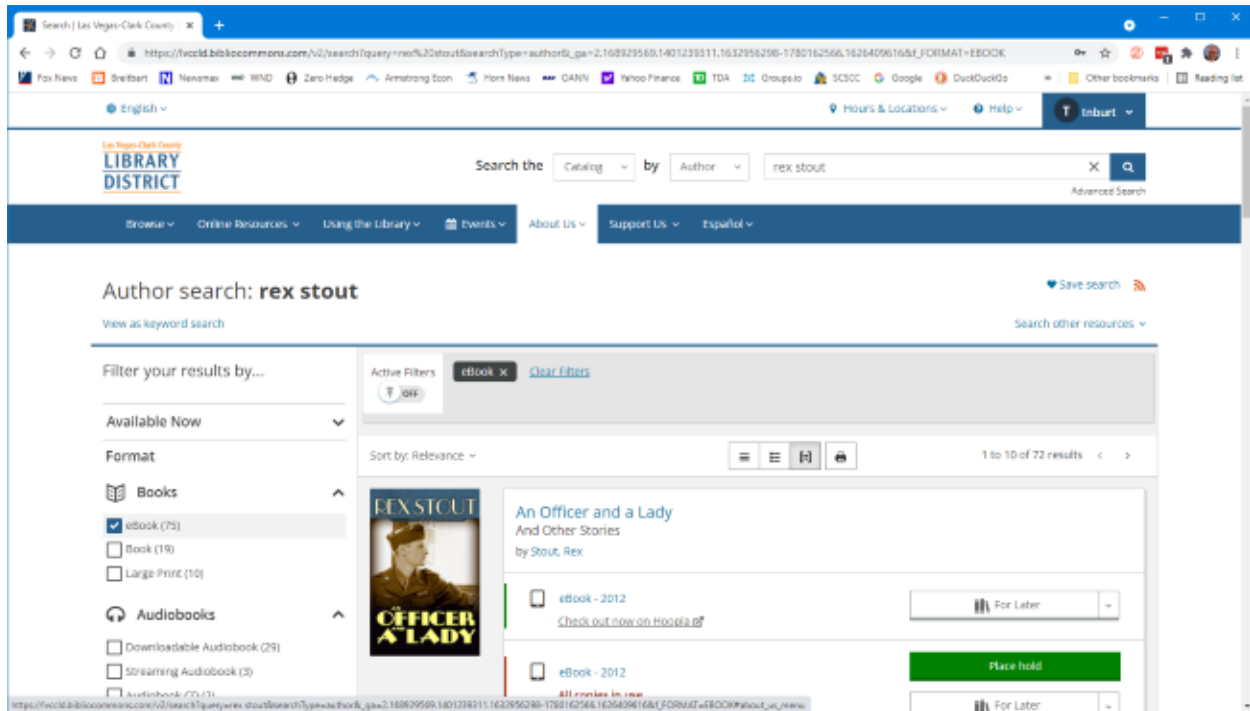
The Las Vegas Clark County Library District website offers a rich collection of e-books and other e-media that you can borrow for up to 21 days. The only requirement is that you have a library card number and an associated PIN.

To check out a book, use the search by author, subject or title to find the desired e-book, click the "Check Out" button, select your format (Kindle, E-Pub, OverDrive Read) and then click the Download button. For Kindle format, you get redirected to the Amazon bookstore to download the selected e-book. Amazon handles it as a sale for $0.00 that grants you 21-day reading privileges for that book. After 21 days, the book is automatically "returned" and you can no longer read it. You get an alert email after 18 days that your "loan" is about to expire. You can also return books early. It's polite to do that, as often there are others waiting to borrow the book. The library has to pay for each lending license, so they often only license a few copies.

Hopefully that helps you know a bit more about e-books and how to get them. I love them because of the convenience and the ease of reading. And they take up zero space in the house.

Kretchmar's Korner

The Other Side of the Bitcoin

David Kretchmar, Computer Technician

In the April 2021 edition of the Gigabyte Gazette, I contributed an article titled "Bitcoin - the New Gold?". I stated that "Gold and Bitcoin, as different as they are, both have characteristics of good investment vehicles and sound money."

In the April article I emphasized the positive aspects of Bitcoin (along with other cryptocurrencies) and concluded by stating, "Bitcoin is becoming a valued currency not by force of government declaration or people's acquiescence, but by recognition and popular acceptance."

Yet any investment with tremendous past profits, as well as massive future potential, also necessarily has tremendous *downside* potential. In this article I'm going to discuss what I think could be the downfall of Bitcoin and other cryptocurrencies.

Scarcity?

The maximum number of Bitcoins that can ever be mined is 21 million, under current protocols. There are approximately 18.8 million bitcoins in circulation today. It is estimated the last bitcoin will be mined in 2040.

Many cryptocurrencies have a finite limit, and the speed at which they will be increased is largely unknown and not controlled by any authority. But the scarcity element exists only <u>within</u> some specific crypto currencies, such as Bitcoin, Cardano (45 billion limit, 32 billion in circulation), and Litecoin (84 billion limit, 24 billion in circulation).

Other cryptocurrencies, such as Ethereum and Dogecoin have no limit. There are well over 1,000 cryptocurrencies in existence, with new ones being created seemingly weekly. The potential supply of cryptocurrencies is infinite, limited only by the human imagination, and the willingness of individuals to fork over their cash. Cryptocurrencies are far from scarce.

Loss of Key

The key is the secret code required to access a cryptocurrency wallet. The loss of this code means the loss of all assets that are stored in the wallet. This can happen if the PC hard drive or flash drive fails or is accidently discarded. According to estimates this is common; it has happened with up to 25% of crypto-wallet owners who have lost over 18 billion dollars' worth of digital currencies. If lost, it is impossible to restore the code and recover the currency.

Technical issues

Technical problems on the servers where cryptocurrency wallets are stored happens with disturbing frequency. Investors who have suffered losses cannot claim a refund regardless of whose fault it is. Usually, the problems are caused by hackers, and occasionally by bugs in software or hardware, but no matter – when the money disappears, it is gone.

Government Intervention

There are some governments that seem willing to accept or to at least accommodate cryptocurrencies, such as the US and Canada. Other nations, such as Russia and China, have

denounced or outlawed cryptocurrencies within their borders. In late September the Chinese government expanded its ban on Chinese financial institutions providing crypto-related services. It restated its goal of forcing miners out of business. This announcement knocked 10% or more off of the values of many cryptocurrencies on 9/24/21, before a small recovery.

Governments lose the ability to use fiscal policies to control their economies when they allow the wide spread adoption of digital currency. If cryptocurrencies were widely adopted, nations would lose the purpose and power of their national banking systems.

There are fears of rising cybercrime and other crime rates due to the increased ability to transfer value through untraceable financial transactions. Some claim the rise of crypto-based payments could increase the ability of people to engage in illegal activities without leaving a trail, another reason many governments opposed the adoption of cryptocurrencies. I believe these fears are overstated, since law enforcement has been able to trace and recover some cyber ransom proceeds, something that would probably be impossible with cash.

Speculation Gone Wild?

On a Sunday afternoon in early September, my wife and I almost accidentally wandered into a

"cryptocurrency seminar" being held in a small meeting room at DV here in Sun City. We soon discovered that we were in a multi-level marketing rally, including testimonies of several people stating they had made hundreds and thousands of dollars in seconds or minutes by using the system the presenters were promoting. Each testimony

was followed by loud claps and cheers. They named several cryptocurrencies; most were unknown to me.

One MLM rally provides anecdotal evidence of probably nothing. However, I have to wonder how many other like-minded individuals around the world have embraced the suspension of logic and critical thinking required to be swept up by the allure of quick profits in cryptocurrencies.

Conclusions

Many of us can remember the "dot com" boom at the end of the last century. Any company claiming to have an idea relating to providing anything through the then new internet could issue stock and reach a substantial valuation. Many new companies had no earnings or even revenues, yet they doubled in price the day they started trading. Investors knew these stocks had no intrinsic value, but no matter, if they could sell them at a higher price than they paid. That sounds very much like most cryptocurrencies today.

When the crash came in 2000, even the few good internet companies such as Amazon and Priceline (Booking.com) saw a destruction of a substantial majority of their market value. This persisted for many years until they eventually recovered and went higher. Most of the dot com companies whose value soared astronomically came crashing back to earth, becoming

worthless, losing investors billions of dollars.

The current cryptocurrency craze exhibits many similarities to the dot com boom, and echoes many speculative bubbles of the past. The Dutch "tulip mania" in the 17th century is considered the first recorded speculative asset bubble. Prices for some rare tulip bulbs reached amazingly high levels, $750,000 in today's money, then dramatically collapsed to virtually nothing.

A $50k cryptocurrency investment has the potential to become a half million dollars or more, or become worthless; you won't even be left with a very pretty flower. And remember, there exists no centralized exchange like there was with stocks and even for tulip bulbs. It could be very ugly. History never repeats, but it certainly rhymes.

APCUG Guest Article

The iPhone Camera is Just Super

By Jim Cerny, Director, Sarasota Technology Users Group
January 2021 issue, STUG Monitor
www.thestug.org director3 (at) thestug.org

Do you remember taking a camera with you to take photos? Do you remember something called "film"? Today our smartphones take wonderful photos and have many options available for us to make our pictures even better. In this article, we are going to review some of the fun options on the Apple iPhone, and they are available on other smartphones as well. They all begin by opening the "camera" app on your iPhone (or smartphone). Once you select an option, the phone may suggest other options or actions for you, such as moving closer or farther from the subject.

Photo – this is the default option, the "mode" you get by default when you open the camera app. Also by default, your camera will use a flash if it is needed (you can turn the flash option "off" if you wish, the icon is a small lightning bolt).

What are "live" photos? -- with Live Photos, your iPhone records what happens 1.5 seconds before and after you take a picture. What you get is more than a great photo; it's a moment captured with movement and sound. You take a Live Photo just like you do a traditional photo. You can tap an area on your screen to change the focus or exposure to a certain area or to see other options.

Reverse camera – In the bottom-right area of your screen is a circular icon of two white arrows pointing clockwise.

Touch this icon to use the camera on the opposite side of your device, this is how all those young people take "selfies".

Yes, your iPhone has two cameras!

Time-Lapse – This will take a periodic or a sequence of photos. Touch the shutter button once to start and again to stop the sequence. This sounds like fun, but I have yet to try it.

Video – When you select this option the shutter button changes from white to RED. Tap it to start your video and again to stop. Yes, you can edit videos, but I will leave that for you to "Ask Google".

Slo-Mo – Use this option as you would "video" above, but you will have a slow-motion effect. If this is something that interests you, be sure to "Ask Google" about using this effect in different ways.

Photo – the default option – see above.

Portrait – This option will keep your subject in sharp focus and blur the background a little. This gives you stunning professional-looking portrait photos.

Pano – This pantographic option will capture a very wide photo, almost a full circle, around you. Hit the button and move the camera slowly in the direction of the arrow (left to right – you can "pan" right to left if you touch the arrow to change the direction). This is a very cool and wonderful option. Try it on a wide sunset or a street view to get a super-wide photo.

Square – This will take a square photo (not rectangular) which is best for use in social media.

If you have a different smartphone than an iPhone, look for these options, they are probably available on your device too. And don't forget the MANY free apps available for you to edit your photos after you take them. No, you will not run out of film but is it always a good idea to delete unwanted photos often to save space on your phone.

Copy the ones you want to keep to your favorite photo storage area, like Google Photos for example, which can be set to automatically save them for you.

Finally, to get the most out of your phone camera, take time to find out more about the options you like to use the most, you will be surprised what it can do. I think the next release will have a photo "X-ray" option to take photos through walls!

Lab Monitor Schedule

The Open Lab session is held once per week: 9 am to noon on Saturdays.

October	Monitor Schedule
Linda McMullin	Saturday 10/2/2021
Fred Cohen Ann Warhaftig	Saturday 10/9/2021
John Zuzich	Saturday 10/16/2021
Linda McMullin Carol Przybycien	Saturday 10/23/2021
Jeff Southwell	Saturday 10/30/2021