

# range Bytes

Volume 47 No 8

August 2023

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## NOCCC meetings for Sunday August 6, 2023

### MAIN MEETING .

The presentation for this meeting will be a compilation of several entertaining or educational or both video clips.

### Special Interest Groups (SIGs) & Main Meeting Schedule

#### 9:00 AM – 10:30 AM

**Beginners Digital Photography** .....Science 129

Questions and Answers about Digital Photography

**Linux for Desktop Users**.....Science 131

Beginners' Questions about Linux

#### 10:30 AM – 12:00 PM Noon

**3D Printing** .....Science 127

Questions and Answers about 3D printing

**Advanced Digital Photography**... Science 129

Questions and Answers about Digital Photography

**Linux Administration** .....Science 131

More topics about the Linux operating system

**Mobile Computing**.....Science 109

We discuss smart phones, tablets, laptops, operating systems and computer related news. **We need a new leader.**

#### 12:00 PM Noon – 1:00 PM

**3D Printing**..... Science 127

Questions and Answers about 3D printing

**PIG SIG** ..... **Irvine Courtyard**

Bring your lunch. Consume it in the open-air benches in front of the Irvine Hall. Talk about your computer and life experiences.

### 1:00 PM – 3:00 PM Main Meeting

See above

..... Science 131

#### 3:00 PM – 4:00 PM

Board Meeting.....  
Science 129

Verify your membership renewal information by checking your address label on the last page. Not right, speak.

**Mark your calendars for these meeting dates**

**2023: Aug 6, Sep 10, Oct 1, Nov 5, Dec 3,**

**2024: Jan 7, Feb 4, Mar 3, Apr 7, May 5, Jun ?**

Coffee, cookies and donuts are available during the day in the Irvine Hall lobby.  
Food and drinks need to remain outside the Irvine Auditorium.

“Friends Helping Friends”  
since April 1976

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WWW.NOCCC.ORG

Reminder: Membership expiration dates have been advanced by two years. So if your membership expired in Nov, 2020 it is now Nov., 2022. Or to put it another way, your membership renewal is now past due. In the address label area of the Orange Bytes is your join month/ expiration month.

## Reprint Policy

Permission to reprint articles is granted to non-profit groups and software/hardware vendors whose products we review, provided North Orange County Computer Club is credited as the source and the original author is given full credit. We request that any non-profit that reprints one of our members articles send a PDF copy of your newsletter to the NOCCC Orange Bytes editor: editor@noccc.org.

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## Editor's Report

### ODDS and ENDS

One of the sections of NOCCC.ORG that seems to be overlooked by most members is the Links sections. There actually four Links sections. The new Links, the old Links, the Useful Links, and the Other Clubs Links. The Other Clubs Links were looked at last month and it was sad how many the government Covid lockdowns killed. Not to mention the tens of thousands of businesses. Anyway, under Old Links you will find "Paperboy, The." Links to >5460 newspaper Web sites from all over the world. Advanced features available for a nominal fee. Check it out! Be careful outside major Western countries. Check out: <https://liveuamap.com/>

# Two Factor Authentication

## Introduction

A recent unsuccessful fraud attempt on my personal online checking account made me aware of the need for improved security when using online accounts. Many websites today offer Two Factor Authentication, or 2FA, as a means of enhancing login security. This article will provide an overview of 2FA, its various methods, and its significance in safeguarding online accounts.

## What is Two-Factor Authentication?

Two-Factor Authentication or 2FA is an additional security measure offered by many websites to enhance the security of the login process. You provide your username, your password and also need to respond with a 2FA multiple-digit (often 6-digit) code number to access your on-line account. The 2FA code number may be sent to you by email, or is sent to or calculated on your cell phone. While 2FA is often used for online banking, many websites offer 2FA today for increased log-in security. Some websites **require** that you use 2FA.

## Email 2FA

Email 2FA is one common type of 2FA used today. You must first save your email address at the website and enable the site's Email 2FA. During login to the website account, after entering your username and password, the website sends you an email with a multi-digit security code. You note the numeric code shown in the email and enter it into the text box on the website account log-in screen. Press ENTER and you will be securely logged in.

If using Email 2FA, that email's displayed security code could be read on your computer or your cell phone, but reading the email on your computer eliminates the advantage of needing two devices for increased security.

## Text Message 2FA

Text Message 2FA is another common type of 2FA used today. You must first save your cell phone number at the website and enable the

site's Text Message 2FA. During login to the website account, after entering your username and password, the website sends a SMS (Simple Message System) text message with a multi-digit security code to your cell phone. You note the numeric code shown in the text message and enter it into the text box on the website account log-in screen. Press ENTER and you will be securely logged in.

## Authenticator 2FA Apps

While Email 2FA and Text Message 2FA are most common, there is another 2FA method that uses an Authenticator cell phone software application, or app. "Google Authenticator" and "Microsoft Authenticator" are free and are popular examples of cell phone Authenticator apps. Authenticator apps do not require a cell phone network connection and use the phone's clock time to calculate a 6-digit security code that changes every 10 to 30 seconds.

During login to your website account, after entering your username and password, the website displays a text box for the security code. Look at the Authenticator app on your cell phone and identify on its list the name of the website and note its current numeric code; enter the code into the text box on the website account log-in screen. Press ENTER and you will be securely logged in. If you wait too long and the app 2FA code changes, you get to enter it again. When using Authenticator 2FA, you do not wait for an email or phone text message.

Cell phones are ubiquitous today but we all worry about misplacing or losing our phones. All Authenticator apps have procedures in place should you lose or replace your cell phone.

## Syncing Authenticator Apps with Websites

Authenticator apps require some setup for each website as the security codes for many websites can be shown when you start your one Authenticator app. After enabling the website's Authenticator 2FA, a QR code will be displayed on your computer. Start Authenticator on your cell phone and click "+" or "Add." Authenticator will then use your cell phone camera to view the QR Code displayed on your computer and add that website name to your app's list of synced websites. The QR Code from the website provides the "seed"

value your Authenticator app uses to calculate the authentication code unique to your log-in at that website.

Each Authenticator security code is unique to one individual and to the website being logged into. Starting Google Authenticator on your cell phone will show a list of websites you have synced Authenticator to; each listed website will show a different, unique authentication code, all changing every 10 to 30 seconds. Other Authenticator apps will have a similar feature. This website-code-uniqueness is accomplished when you sync your Authenticator app with the website log-in; this syncing is done only once when you first enable Authenticator 2FA on the website.

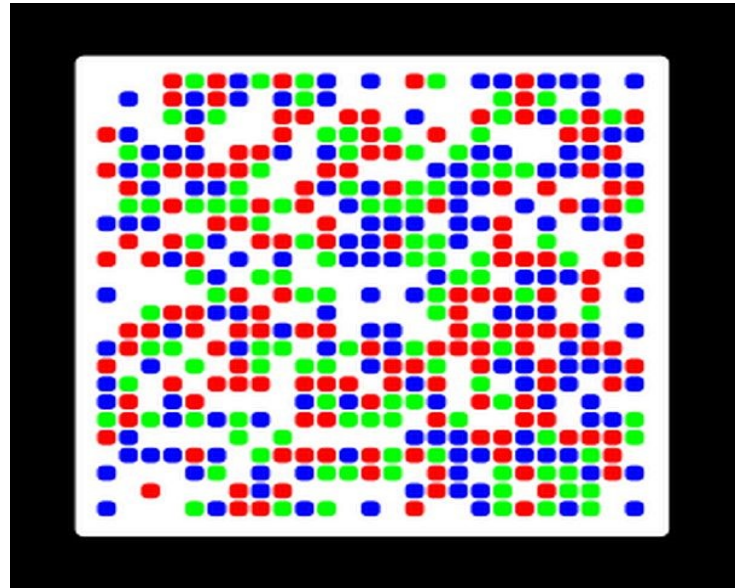
## Enhanced Security Using Multiple Devices

Requiring the use of two physical devices for website login improves security. Hence, 2FA systems that require use of both a computer and a cell phone are safer than those using only a computer. Google Authenticator is available only as a cell phone app, so like Text Message 2FA, requires two devices for secure log-in.

Note that both Text Message 2FA and Authenticator 2FA require that you use your cell phone to provide a code needed to complete login to a website. If using Text Message 2FA, the website will send a SMS text message to your cell phone. If using Authenticator 2FA, your cell phone app generates the security code and no cell phone call or message is used. Yes, it is more work to sign on to a website using 2FA but it is more secure because presumably only you have your computer and cell phone, and your cell phone itself has a security code to view its screens.

## QR Codes

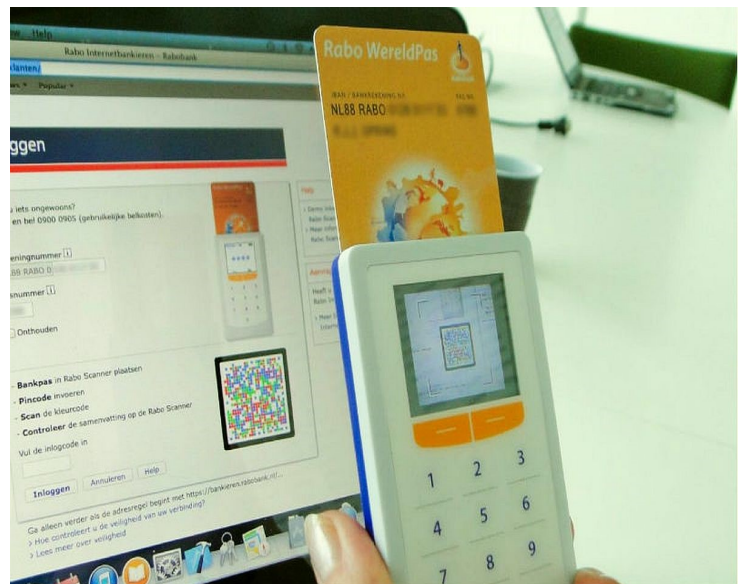
QR Codes are increasingly used for many data com purposes today. QR Codes are two-dimensional square arrays of square black and white dots. QR Codes can carry an astonishing amount of information, but as described here, the QR Code is displayed on your computer by the website 2FA set-up screen in order to sync your Authenticator cell phone app. This syncing is required only once. There are other systems of 2D graphic symbols, notably in Europe, where colored round dot symbols are seen, but here QR Codes dominate.



## Other Login Security Systems

There are security systems that use a thumb drive dongle; that is a single-purpose, additional device than can even provide encryption, but that must be kept on-hand, requires a USB slot and is less convenient.

In Europe, some banks supply a hand-held, stand-alone, battery-powered hardware device for 2FA;



using this 2FA system is more complex. The bank device has a slot to plug in a chip-enabled card (like a credit or debit card), a numeric keypad, its own camera to view a 2D graphic code (QR Code or other) on your computer screen, and its own display screen. A personal PIN is entered on the device keypad, the device camera views the computer 2D code and the device screen displays a



calculated 8-digit security number, which you must read and enter on your computer. This sequence of **enter-PIN, view-2D code, enter-**



**curity-number** is used for **every** website login and again for **every** separate transaction while you are logged in. Surprisingly, username and password may not be used. This European banking website security system thus implements more login and transaction requirements than bank security systems in the USA. Yet, these systems have been in use for more than ten years and there is no groundswell of user complaints about the extra hardware and security steps. This system seems a bit extreme and I've never heard of anything like this used in the USA.

## PayPal Secure Login

I use PayPal extensively for payments on-line because it does not reveal my credit card number. PayPal apparently has offered Text Message 2FA in the past and supports it now if it was then enabled, but new 2FA implementations at PayPal require use of an Authenticator app on your cell phone. So, for added log-in security at PayPal, I downloaded the free Google Authenticator app to my Android cell phone. The synching process went smoothly and I now have much better security logging into PayPal.

## Conclusion

While use of any 2FA adds some steps to account login and may seem inconvenient, it does increase the security when you login to websites that can perform some kind of financial transaction

. Please realize that no login method is perfectly secure and it is up to you to securely maintain your own passwords and cell phone. Most fraud takes place from international locations which lack access to your cell phone so 2FA serves as a valuable additional security measure to protect your online accounts.

Larry McDavid, NOCCC, LACS, FRC

Final Revised Version for publication; expanded European 2FA system  
Revised July 25, 2023 11:50 am  
Larry McDavid

## The computer magazines of yesteryear replaced, or transitioned, to websites

By Dick Maybach, n2nd[at]att[dot]net [www.bcug.com](http://www.bcug.com)

*Editors Note, the original article on [www.bcug.com](http://www.bcug.com) has a number of nice graphics that accompany the article, I did not have room for them and just used the text. If you would like to see them, goto: <http://www.bcug.com/Bytes/bytescurryr.html> September 2022 news letter.*

When PCs arrived in the '80s, bookstores were full of hobbyist magazines, such as PC Magazine, PC World, and Dr. Dobbs Journal. Now, most PC users consider their devices to be appliances rather than hobby equipment, and the magazines have disappeared. However, a few enthusiasts remain, as do publications that support them, but most now as websites. These are not where you go to find problem solutions, but to learn about new de-

velopments and for tutorials. Here are a few examples.

### PC Magazine

appeared once or twice a month in my mailbox, and I would read every page. It now is a website, <https://www.pcmag.com/> that covers Macs as well as PCs. The website covers a wider range of topics that did its print predecessor and includes reports on products, advice, and tech news. There is of course a search feature to help you find past articles that interest you. As with all websites, the content evolves continually, so if you find something interesting, you may wish to save the article or at least its URL. You can subscribe to special-topic newsletters (what's new, lab report, tips and tricks, etc.), apparently at no cost.

### PC World

is also still alive and well, <https://www.pcworld.com/>.

The topics are less wide-ranging than those on the PC Magazine site, and are largely limited to PCs. They also have free newsletters, and you can subscribe to their digital magazine for about \$20 per year to relive the print magazine experience. Another old favorite was

### ComputerWorld,

<https://www.computerworld.com/>.

The topics are less wide-ranging than those on the PC Magazine site, and are largely limited to PCs. They also have free newsletters, and you can subscribe to their digital magazine for about \$20 per year to relive the print magazine experience. Another old favorite was ComputerWorld, <https://www.computerworld.com/>. They too have free newsletters on specific topics, and the site is of course searchable.

See **Tom's Hardware**,

<https://www.tomshardware.com/>, for infor-

mation on PC components.

This never appeared in print and is formatted as a traditional website rather than a periodical. Here you'll find detailed reviews of motherboards, CPUs, monitors, storage devices, other peripherals, as well as complete computers. There are also tutorials on building and testing PCs and forums where you can ask questions and exchange views. Although the name implies this is a one-person project, a sizable staff supports the site. If you're looking for tutorials or help in solving PC problems, you might check

### **Computer Hope,**

<https://www.computerhope.com/tips/index.htm>.

This too has existed as a website. If you need information or help on specific topics, this may be a better site than the general-information ones above. Its coverage includes Linux, while the first three above appear to be limited to Windows and Macs.

### **Full Circle Magazine,**

<http://fullcirclemagazine.org/>,

is a 60 to 70 page monthly publication covering primarily Ubuntu Linux, although much of the material has a wider scope. Unlike the sites discussed above, this is a magazine that began publication in 2007 and continues today. You can read the issues on line as PDFs or EPUB files or download them. The monthly issues cover primarily Ubuntu, but there are also special issues on such topics as the Python language and LibreOffice. Like print magazines, once an issue is published it doesn't change.

### **Raspberry Pi users have MagPi,**

<https://magpi.raspberrypi.com/>,

a 100-page monthly, available as a download or in print. The first issue was published in 2012. Like Full Circle, you can read and download the issues for free, although they request

a donation. Many articles describe hardware and software projects, often with a link to step-by-step instructions. This is an essential resource if you are working with a Raspberry Pi.

### **Arduino**

users should check the blog on the Arduino website, <https://blog.arduino.cc/>.

This is a blog, not a magazine, made of short articles describing Arduino projects with links to more complete descriptions. Since the content changes continually, you'll want to record the URLs of those that interest you.

This has been a sampling of some resources available to those interested in PCs, and there are many more that may suit you better. With the decline of printed publications it's easy to fall into the habit of using the Internet only to find solutions to specific problems, which can result in our focus narrowing. In the early days of PCs, print magazines continually exposed us to new products and ideas, which websites such as those discussed here, can do today. PCs are wonderful aids for exploring and growth; it would be a shame to lose this resource..

## A LITTLE HUMOR

A certain lawyer was quite wealthy and had a summer house in the country. Each summer the lawyer would invite a different friend to spend a week or two. On one occasion, he invited a Czechoslovakian friend to stay with him. The friend, eager to get a freebie off a lawyer, agreed. Early one morning, the lawyer and his Czechoslovakian companion went out to pick berries for their breakfast. As they went around the berry patch gathering blueberries and raspberries, along came two huge bears, a male and a female.

The lawyer, seeing the two bears, immediately dashed for cover. His friend, though, wasn't so lucky. The male bear reached him and swallowed him whole. The lawyer ran back to his Mercedes, tore into town, and got the local sheriff. The sheriff grabbed his shotgun and dashed back to the berry patch with the lawyer. Sure enough, the two bears were still there. "He's in *that* one," cried the lawyer, pointing to the male, while visions of lawsuits from his friend's family danced in his head. He just had to save his friend. The sheriff looked at the bears, and without batting an eye, leveled his gun, took careful aim, and shot the female. "What did you do that for?" exclaimed the lawyer. "I said he was in the *other* one!"

"Exactly," replied the sheriff:

"Would you believe a lawyer who told you the Czech was in the male?"

**North Orange County Computer Club**

**Dr. Donald Armstrong  
709 Rosarita Drive  
Fullerton, CA 92653**

**To All Members:**

The line above your mailing address now shows your joindate. Please use your join **month** to choose when to renew your membership.

**Dated Material – Please deliver ASAP**

Membership Level (\$)	1 Year	3 Years
Individual Member .....	35	90
Each Additional Family Member .....	15	40
Full-Time* Enrolled College Student	20	
Enrolled High School Student	15	

\*Minimum 12 Semester Hours

Business Member + Ad (Business Card)	180
Business Member + Ad (¼ Page, ½ Page)	465, 800
Business Member + Ad (Full Page)	1,475
Contributing Member	75
Supporting Member	100
Advocate Member	250
Patron Member	500

**Directions to the NOCCC meeting location**



Enter CA-55 N (Costa Mesa Freeway) crossing Interstate 5 toward Anaheim/Riverside for 9 miles. *Notice freeway and street signs stating "Chapman University."* Exit toward E Chapman Ave. Turn right onto N Tustin St. Turn left onto E Walnut Ave.

1) Turn left past N. Center St. for the **best place to park** in the underground parking structure ( Lastinger under the sports field). Pay the small fee (\$2) to park Ask members or [help@noccc.org](mailto:help@noccc.org) about parking details, restrictions, and our price break!

2) Turn left onto N Center St. On the right is the Hashinger Science Center, 346 N Center St. Orange California. Parking on the University side is free. Parking on the residential side is a city violation that may cost you a tow away and a ticket!