Milwaukee Computer Society

Monthly Meeting Dates:

Meetings are usually on the third Saturday of the month and start at 12:00 Noon.
Monthly 3rd Saturdays for the next year are:

This month's meeting Saturday March 19th

Location:

Greenfield Park Lutheran Church
1236 S. 115th St.
West Allis, WI
One block North of West Greenfield Avenue on 115th Street - Parking is not a problem.

JOIN THE MARCH MADNESS

Vice President's Turn

Some of you have heard the story I told about upgrading my Dell laptop to Windows 10 when it first came out. As you know it is a free upgrade for Windows 7 and Windows 8.1 users for 1 year. To recap, it took approx. 6 hours to **try** to do the upgrade from my Win 7 to Win 10 and then I had to fall back to Win 7 because it didn't work properly.

I was so glad I had the forethought of doing an image backup of my hard drive to an external drive using Macrium Reflect. I also did another image backup a few weeks ago because I'd been noticing my computer acting sluggish. The computer did a Windows update which took about 3 hours (to my surprise). When all was done, Windows informed me the updates failed and then I got a message that the Hard Drive had errors on it and suggested I do a backup of my files. This message showed up about every 10 minutes. I finally checked the box to stop informing me and that's when I did my second image backup using Macrium Reflect.

I finally decided to change out my Hard Drive. I did a backup of my Mozilla Waterfox and Thunderbird using Mozilla Backup. This backed up my browser and email programs. I also backed up My Documents folder using Aomei Backupper Professional. I tried to do an image backup again just before changing out the Hard Drive but I got a failure message from Reflect.

Membership in MCS is open to all individuals and families interested in personal computing. Annual dues are $30 for an individual or family membership. Dues include a one year subscription to this newsletter and access to all club libraries. Applications for membership may be obtained at the monthly meeting, or by writing us at this address:

Milwaukee Computer Society
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Franklin, WI 53132

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MCS Home Page
http://mcs.wauknet.com

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THE VISION STATEMENT

The MILWAUKEE COMPUTER SOCIETY assists the membership in achieving their individual personal computer objectives through the utilization of membership expertise and other resources. Providing companionship, camaraderie, and the opportunity to increase computer knowledge, computer skills, computer expertise and computer applications.

Now I'm glad I did the image backup a couple of weeks ago. The hard drive I decided to use was a 1 Terabyte which is a substantial upgrade from what the laptop originally had (the original Hard Drive was 380 Giga bytes). I did some price comparison on the Internet from a few of the brick and mortar stores in the area. I actually decided to get a 500 Gigabyte HD from Office Max because I had $30.00 in rewards coupons. The original price for the 500 Gig drive was $49.00. Using the $30.00 rewards, the new HD would cost only $20.00 plus tax. When I went to purchase it, one of the floor sales persons checked and found they were out of stock of this particular HD but found a 1 Terabyte HD in back that sold for $79.00 and she would sell it to me for $59.00. I decided to go for it! A 1 Terabyte HD for $30.00, not a bad deal.

 I looked online for the procedure to replace the HD on my Dell Inspiron N5040 laptop. It looked easy enough although this was uncharted territory, to disassemble a laptop. You need a small Philips screwdriver, a small standard screwdriver and a tweezers with fine points to pick out the screws after loosening them. There's about 16 screws you have to remove to get at the HD. You also have to remove the keyboard and the palm rest and a few ribbon cable connections to get at the HD. This also gave me a chance to blow out the dust from the processor cooling fan and fins with a can of air. To change out the HD and put it all back together took approx. 45 minutes.

I inserted the Macrium Reflect startup CD, plugged in the external HD and proceeded to reinstall the image onto the new 1 Terabyte HD. To reinstall the image took about 1 hour. Not bad to have my OS and all my programs back on a fresh HD. Everything was working great! I restored my Mozilla applications again using Mozilla Backup, and my emails were back up to date.

I looked at the properties of the new HD and noticed it's only about 380 Gig. I started up another program I have on my computer called MiniTool Partition Wizard Free. I was pleased to see all the partitions on my computer and noticed the largest chunk not used or assigned. I decided to extend the OS C drive to utilize the unused partition. MiniTool Partition Wiz-

Future electric cars could re-fill batteries from roads infused with wireless charging

Your car battery could always be fully charged with 'dynamic wireless charging'

Qualcomm president Derek Aberle with F1 racer Lewis Hamilton at Mobile World Congress on Feb. 25, 2016.

Agam Shah
IDG News Service

- Feb 25, 2016 1:54 PM

Charging an electric car while driving may sound like a wild idea, but Qualcomm wants to bring that capability to automobiles.

Qualcomm is developing what it calls "dynamic wireless charging" technology, so drivers won't have to worry about plugging in their cars. Just cruise the streets, enjoy the scenery, and recharge your car, all at the same time.

In the future, there may be "charging elements in the highway, so as you drive over them, your car charges automatically," Derek Aberle, president of Qualcomm, said during a speech at the Mobile World Congress trade show this week.

The basic premise of the technology is similar to the way many people charge mobile devices today. Charging pads would be installed in roads and parking lots.

The technology is still years away, but it will help self-driving cars be truly autonomous, Aberle said.

"How can you have an autonomous car that you actually have to plug in?" he said. "That's pretty counterintuitive."

The technology promises several benefits. Electric cars could have a nearly unlimited range. In addition, many people now forget to plug in their cars overnight and wake up to empty batteries. That problem will be a thing of the past, Aberle said.

Cars could also have smaller batteries, allowing changes in vehicle design, Aberle said.

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The dynamic wireless charging technology is an advanced version of a static wireless charging system for cars already being developed by Qualcomm. The static charging technology will reach cars in the next two to three years, Aberle said.

Qualcomm is working on charging pads that can be placed in your garage. When your car parks, it connects to the pad and starts charging.

The chip maker is working with DaimlerChryser to install a "next-generation" static wireless charging system in cars.

Qualcomm's plan to bring wireless charging to moving vehicles would require costly and time-consuming infrastructure change, however.

An Intel effort to bring wireless laptop charging to airports, restaurants and public places has slowed due to resistance to adding infrastructure at those locations.

Permanent 'Superman crystal' holographic storage is etched with the Bible, Magna Carta

A type of crystalline storage with an estimated lifespan of billions of years has been tested with documents encoded using the technology.
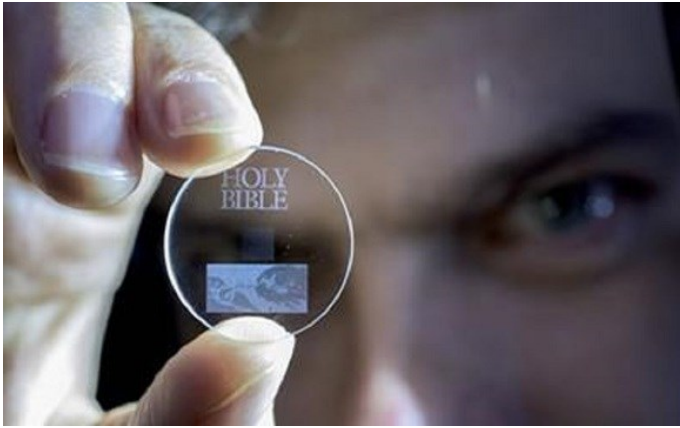
A researcher holds a crystal etched with a copy of the King James Bible.

Credit: U. of Southampton

Mark Hachman | @markhachman
Senior Editor, PCWorld

- Feb 16, 2016 11:00 AM

Researchers at the University of Southampton in the U.K. say they've been able to etch some of mankind's most famous documents on a "5-dimensional" crystalline storage medium estimated to have a lifespan of billions of years.

The researchers used self-assembled nanostructures created in fused quartz crystal to store data in five "dimensions," writing each file in three layers of nanostructured dots separated by five micrometers of blank space. The data is encoded using the standard three dimensions of width, height, and depth. The fourth and fifth "dimensions" assign values to the size of the data "dot," and how it is aligned.

That all works out to a theoretical data capacity of 360 terabytes that can be stored in the dimensions of a conventional disc, like a DVD, the researchers said. The fused quartz essentially lasts forever, or 13.8 billion years at 190 degrees centigrade. It's also thermally stable up to 1,000°C, the researchers claim.

Why this matters: The *Superman* comics and movies showed how the native Kryptonians stored their stored knowledge on crystals, which young Kal-El (Superman) was able to access in his Fortress of Solitude. So yes, it's really pretty cool to see these "Superman crystals" become reality. What we truly need, though, is an archival storage medium that can be read decades down the road. Who has a floppy disc drive any more? Or even a CD-ROM reader? The cloud is one solution, but only if we trust our personal information will be safe for generations in the hands of businesses who may or may not care that our digital lives are preserved.

A permanent record

The problem with the media that we've come to associate with computers is that most older formats simply aren't permanent. According to the National Archives, magnetic media (tape) typically last between 10 and 50 years. Pressed discs, such as you might buy as a game or a piece of software, may last "generations" if preserved well. But recordable discs can be unreadable in as little as a year, if the organic dyes used to store your data deteriorate to the point where they become unreadable.
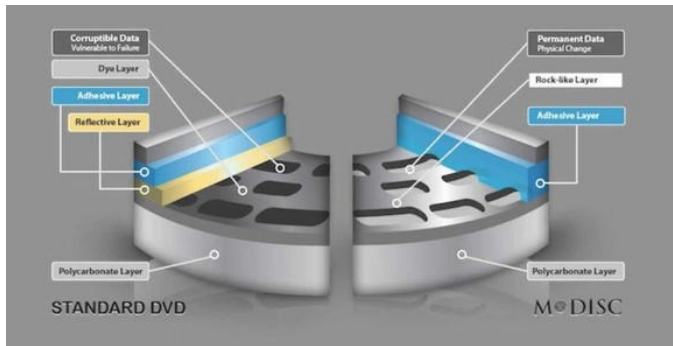
M-DISC
A diagram of layers used by the M-Disc to store data.

M-Disc technology, which is now supported by numerous Blu-ray and DVD burners, was created to solve this problem, too. It uses an inorganic layer as a way to preserve your data even longer—up to 1,000 years, the company claims. But each disc only holds 4.7GB, and a 50-pack (or a bit more than 200GB) costs $140. (M-Disk also supports 100-GB Blu-ray compatible discs, for $20.50.) But that's the price you'll pay for near-permanent data storage.

That's the goal that the Southampton researchers also hope to accomplish.

"It is thrilling to think that we have created the technology to preserve documents and information and store it in space for future generations," said Professor Peter Kazansky of the university's Optoelectronics Research Center, in a statement. "This technology can secure the last evidence of our civilization: All we've learnt will not be forgotten."

The 5D "Superman crystals" technology was first proven out in 2013, when a 300-kilobit file was encoded. Now, the researchers have encoded the Universal Declaration of Human Rights, Newton's *Opticks*, the Magna Carta, and the King James Bible using the technology.

The Southampton team plans to present a paper on the subject at the International Society for Optical Engineering Conference in San Francisco this week, where hopefully questions will be asked and answered on two issues: exactly how fast data is encoded and read, and the projected cost of such a solution. The researchers also say that they're looking for a company to help commercialize the technology.

The Southampton ORC released a video showing the encoding process, which uses what the researchers claim is a "ultrafast" laser. However, it's just not clear how fast data can be read and written to the medium.

Still, the goal here is to create a permanent means of storing information, not a fast one. if such a process could be made viable, it's not impossible to believe that humanity could build another Great Library of knowledge, one that could last virtually forever.

Correction: An earlier version of this story implied that M-Disc only supported 4.7-GB DVDs; the format supports up to 25-, 50-, and 100-GB Blu-ray discs,