

What's New & Neat

January 2022

Technology in General

How much change?

- In my opinion, the past couple of years in many technologies has been dominated by changes that are evolutionary rather than revolutionary.
- This was, quite probably, affected by the COVID pandemic.

Mobile Phones

How is the battle going?

- Two mobile phone platforms dominate the world:
 - Apple (*iOS*)
 - *Android*
 - But which will come out on top?
- Worldwide market share, Dec 2020 – Dec 2021 (<https://gs.statcounter.com>):
 - Android.....72%
 - Apple.....27%
 - Samsung, Microsoft, & other.....< 1%
- U.S. market share, Dec 2020 – Dec 2021 (<https://gs.statcounter.com>):
 - Android.....39%
 - Apple.....61%
 - Samsung, Microsoft, & other.....< 1%

How do you decide?

- Consider such criteria as:
 - Are there particular features you want (especially hardware features)?
 - What do family and friends use?
 - What platform are you used to?

The foldable phone

- Mobile phone manufacturers always are looking to include new & exciting features, hoping that will translate into increased sales.
- A recent, interesting example of this is the *foldable phone*, such as the *Samsung Galaxy Z Flip3*.
- While the concept is cool, there are some display compromises, such as the *display crease*.
- One pays a premium for the foldability, and only time will tell about screen durability. (For example, see the video of the *Galaxy Z Fold 3* found at <https://www.youtube.com/watch?v=HF1co1CDn9s>.)

Tablets

What's new here?

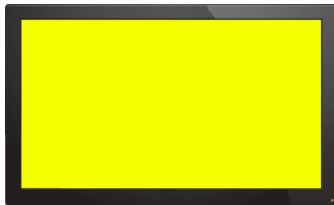
- Most tablets, like mobile phones, are either based on the Apple (*iPadOS*) platform or the *Android* platform.
 - However, Microsoft has been able to secure some market share with their *Surface* series.
- Some of the differentiating features that drive sales for tablets include:
 - Display size & bezel thickness – which affect device size.
 - Memory capacity (e.g., 32GB, 64GB, 128GB, and 256GB).
 - Battery life.

How do you decide?

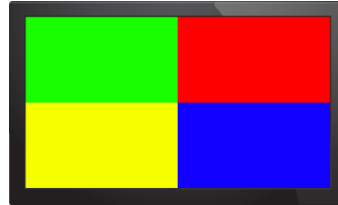
- Most selection criteria are the same as for a phone:
 - Are there particular features you want (especially hardware features)?
 - What do family and friends use?
 - What platform are you used to?
- Other things to consider:
 - How will you use the device?
 - Portability.
- For example, if your primary activity is to read books, you might want to purchase an *eReader*. such as an *Amazon Kindle*. But, if you read comic books, you might want a tablet.

Television

- HD, 4K, and ... 8K?
 - Screen resolution is one of the main decision factors when purchasing a new TV.



HD



4K



8K

- If HD video is transmitted to your TV at rate of X MB per second, then 4K video will require about $4X$ MB per second, and an 8K video will require about $16X$ MB per second.
 - We'll come back to the importance of this later, when discussing "cutting the cord".

Display technologies

- *OLED* (Organic LED) displays still are the "king of the hill" with respect to overall picture quality. The downsides are:
 - Cost: much more expensive than LED.
 - Brightness *half-life*: OLED displays may lose 50% of their brightness in as little as five years.
- *Mini-LED* and *micro-LED* displays are expected to give OLED displays a run for their money over the next few years.
- They promise to provide an OLED-like picture quality, but with a much longer half-life.
- Their prices probably will be lower than those of OLED displays, eventually.

HD, 4K, and 8K: How do you decide?

- Factors that affect your TV purchase decision:
 - The price difference between HD TVs and 4K TVs is negligible. Thus, you probably will want to choose a 4K TV.
 - Screen size and the distance between the screen and the viewer determine how much benefit a higher resolution display provides. For example, a small TV video will look about the same at HD and 4K.
 - Look for a TV with bright colors and dark blacks.

Cutting the cord

- *Cutting the cord* is the idea of abandoning traditional services such as cable and satellite TV in favor of TV *streamed* (downloaded as you watch it) across the Internet.
- The Mayfield household just cut the cord.
- Our monthly TV bill looks like it will drop from about *\$165/month* to just *under \$80/month*.
- *YMMV* (Your Mileage May Vary).
- There are many “pay” streaming services available, including:
 - YouTube TV
 - Netflix
 - Apple TV+
 - BritBox
 - Disney+
 - Hulu
 - ESPN
- Many have *exclusive content* – available only on that service – to attract subscribers.
- There are several free streaming services, as well:
 - Peacock (NBC)
 - Crackle
 - Tubi
 - Pluto
 - Vudu (Walmart)
 - Xumo (live news & sports)
- On these services, you generally can find a lot of *older TV programs and movies*, and you can rent or purchase newer content.

Caution!

- While cutting the cord may look attractive, remember that you are streaming your TV from the Internet.
- Two factors to keep in mind are:
 - If your ISP (Internet Service Provider) puts a *data cap* on your monthly usage, this could lead to costly *data overages*.
 - Compare the cost of your current TV service to the *total cost of the streaming services* you plan to use.

How smart is your TV?

- Most TVs you can purchase today are so-called *smart TVs*.
 - In many cases, the cost of a “traditional” TV is comparable to that of a smart TV.
- Some of the more popular TV operating systems are *Roku* and *Fire* (Amazon).
- The Mayfield house recently purchased a Fire TV. It works seamlessly with the *Amazon echo* devices we have.
- If you have an “outdated” operating system on your smart TV, you can purchase and connect to your TV a separate device to act as the “smarts” for your TV.
- These include such devices as:
 - Roku stick
 - Fire stick
 - Apple TV
 - Google Chromecast

Computers & Software

New operating system versions

- As usual, new computer operating systems are released from time to time.
 - For most of us, *Microsoft Windows* or *Apple macOS* runs our computers.
 - For the geekier, *Linux* is a popular choice.

Apple Macintosh computers

- The latest version of macOS is named *Monterey*.
 - Apple generally releases a new version of macOS on an annual basis.
- Within the last year, apple chose to discontinue use of the *Intel CPU* (Central Processing Unit) chips for its Mac computers in favor of *its own custom-designed CPU* chips.
 - The move has been embraced by the Mac community and has yielded performance improvements.

Windows-based Computers

- After stating that Windows 10 would be the *final version* of Windows, Microsoft released *Windows 11* last year.
 - While it has received a lukewarm reception, I have found it to be a good successor to Windows 10.
- A confusing and frustrating aspect in this release is the requirement of a *TPM* (Trusted Platform Module) in the computer, for increased security.
 - As a result, Windows 11 will not run on computers that are more than a few years old.
 - Time will tell whether or not Microsoft continues to require TPM, as this is hampering the widespread adoption of Windows 11.
- Microsoft says it will support Windows 10 until *sometime in 2025*.
- I see no “gotta have” features in Windows 11, so if your computer will not run the new version and Windows 10 meets your needs, you don’t need to rush out and purchase a new computer.
 - By 2025, it will be time to for a new computer, anyway.

Artificial Intelligence

AI assistants

- *Alexa*, *Siri*, and other assistants continue to get better at what they do.
 - Image search based on textual or spoken description.
 - Real-time translation between natural (spoken) languages.
 - The ability to entertain and inform.
- There has been concern about these assistants “listening” to you even when they are not in use.
 - I feel that the level of concern has dropped in the past year or so as manufacturers have worked to address *privacy issues* and calm users’ fears.
 - Check with the manufacturer to learn more about privacy and your AI assistant.

Automobiles

- *Tesla* arguably is the leader in *autos that assist the driver*, though other manufacturers are creating their own driver-assistance systems.
- These *smart cars* can assist with parking, alert the driver of anomalies (including lane departures), and even take over the task of driving at limited speeds.
- I predict that *within 10 to 15 years*, it will be illegal for humans to drive autos on public roadways.

Space travel

- The advent of privately-owned firms that focus on the *delivery of people and goods to space* (e.g., the companies *Blue Origin* and *SpaceX*) has made a big difference over the past couple of years.
- The use and improvement of reusable components has reduced the cost of space delivery and made space travel more accessible. (See the video *SpaceX Falcon Heavy Landing* found at <https://www.youtube.com/watch?v=l5I8jaMsHYk>.)
- Blue Origin launched *OSU alumna Wally Funk* into space in 2021, making her the oldest astronaut at the age of 82.
 - She still holds the record of oldest female astronaut.
- Ms. Funk's record was surpassed a few months later by actor *William Shatner*, who was *90 years of age* at the time of his Blue Origin flight.

Thanks!

- Any questions? You can reach me at blayne.mayfield@okstate.edu.